

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
27 September 2001 (27.09.2001)

PCT

(10) International Publication Number
WO 01/71682 A2

- (51) International Patent Classification⁷: **G07F 19/00**, 9/00, 7/10, G06F 17/60
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- (21) International Application Number: **PCT/US01/08346**
- (81) Designated States (*national*): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (22) International Filing Date: 14 March 2001 (14.03.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
09/528,133 17 March 2000 (17.03.2000) US
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
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- Published:**
— *without international search report and to be republished upon receipt of that report*
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*



WO 01/71682 A2

(54) Title: METHOD AND APPARATUS FOR MAKING, MAINTAINING AND DISTRIBUTING PROFILES AND MOTION VIDEO TO VENDING MACHINES IN VENDING MACHINE NETWORKS

(57) Abstract: Certain embodiments include a method and apparatus of directing profile presentations across a network of vending machines controlled by a vending system server comprised of vending system server process and a process on each of the vending machines of the network.

METHOD AND APPARATUS FOR MAKING, MAINTAINING AND DISTRIBUTING PROFILES AND MOTION VIDEO TO VENDING MACHINES IN VENDING MACHINE NETWORKS

Technical field

5 This invention relates to financial access vending machine controllers controlling vending machines involving user finance card readers and systems containing such financial access vending machines.

Background Art

10 Figure 1 depicts a financial access vending machine controller 100 as found in the prior art.

Financial access vending machine controller 100 contains a financial access vending machine control computer 102 coupled 112 to computer accessible memory 110, where a financial access vending machine control program is stored. Note that it is often the case that there is a volatile and nonvolatile
15 memory component to computer accessible memory 110.

Financial access vending machine controller 100 contains the financial access vending machine control computer 102 further coupled 122 to user screen 120 and further coupled 132 to user key interface 142.

20 Financial access vending machine controller 100 contains the financial access vending machine control computer 102 further coupled 142 to user card reader 140, coupled 162 to external network interface 160, which in turn couples 164 the financial access vending machine controller to one or more external networks.

25 Financial access vending machine controller 100 contains the financial access vending machine control computer 102 further coupled 152 to user printer 150, coupled 172 to deposit receiver 170 and further coupled 182 to cash dispenser interface 180.

These devices are found throughout the world in a variety of settings and have become an assumed component of the lifestyle of millions. They operate at hours and in locations not serviced by regular financial institutions, providing a significant set of services to anyone possessing an access card
5 and password sequence, which is often a four keystroke sequence known as a Personal Identification Number (PIN). Access to the user's finances can be attained. Cash can be received and/or transferred, which is accordingly credited or debited against the financial account. The account status may be viewed, as can a log of recent transactions. While these services are
10 extremely valuable, there are a number of additional needs not serviced by such devices at this time.

Each of these financial access vending machines is specifically identified, and that identification is essential to secure transactions with external financial networks. However, the user interface software does not reflect that
15 identification. As a consequence, there is no way for a user to get customized information specific to that financial access vending machine locale, such as where nearby restaurants, hotels or car rental companies are located. What is needed is a method of presenting financial access vending machine specific content to users, which can be readily navigated by the user.

20 Each of these financial access vending machines, once the user access card has been read and the PIN confirmed, has identified the user. However, this identification does not affect the presentation, other than provide financial specifics during the course of the user session on the financial access vending machine. There is no way for a user to access generally available
25 real-time information such as relevant stock market information, scores and scenes of ongoing sporting events, information which may be needed or greatly desired by travelers away from their usual sources of information. What is needed is a method of presenting user specific content to users, which can be readily navigated by the user.

Each of these financial access vending machines, once the user access card has been read and the PIN confirmed, has identified the user. However, this identification does not affect the presentation, other than provide financial specifics during the course of the user session on the financial access vending machine. There is no way for a user to access generally available real-time information such as relevant stock market information, scores and scenes of ongoing sporting events, information which may be needed or greatly desired by travelers away from their usual sources of information. What is needed is a method of presenting user specific content to users, which can be readily navigated by the user.

Each of these financial access vending machines is the property of a company that may benefit from presenting advertising to its users. Such advertising may include special offers from one or more lending institutions, such as discounts on certain acquisitions, mortgage plans, auto loan deals and the like. Such advertising aids in creating additional business for the financial access vending machine owner. Financial access vending machine owners may further wish to sell advertising, particularly targeted advertising. Targeted advertising incorporates knowledge of the specific advertising situation, such as the location of the advertising situation, the financial access vending machine and also the general profile of the user, such as lifestyle preferences, gender, age and educational level. What is needed is a method of targeted advertising presentation in a financial access vending machine, which takes into account the financial access vending machine identification. What is further needed is a method of targeted advertising presentation in a financial access vending machine, which takes into account the financial access vending machine identification and the user profile.

More importantly, many users would prefer to specify areas of interest, a vegetarian may not be interested in steak houses, a soccer fan may not be interested in baseball, for instance. However, these same people may be specifically interested in certain targeted advertisements: the vegetarian may

be very interested in vegetarian restaurants, the soccer fan may be very interested in sales of season soccer tickets.

What is needed is a method of targeted advertising presentation in a financial access vending machine, which takes into account the identified user profile.

- 5 What is further needed is a method of targeted advertising presentation in a financial access vending machine, which takes into account the financial access vending machine identification and the user profile.

Figure 2 depicts a prior art system containing multiple financial access vending machine controllers **100-1** to **100-6** interfaced to a financial access vending network server **220** which is in turn coupled **302** to a financial network **300**.

Each financial access vending machine controller **100-1** to **100-6** respectively interfaces **164-1** to **164-6** via financial access vending network **200** to a financial access vending network server **220** coupled **202** to financial access vending network **200**. Financial access vending network server **220** provides a secure network communications gateway **302** between the financial access vending network **200** and one or more financial network servers **300**. By way of example, users using each of the financial access vending machine controllers **100-1** to **100-6** may be concurrently using access cards from distinct financial institutions. To carry out the requested financial transactions in this example, financial access vending network server **220** may thus be interfaced to six distinct financial network servers **300**, possibly through intervening network paths.

Financial access vending machine networks such as just described are fundamental to the improved financial services enjoyed by millions of people in this and every other industrialized or post-industrialized country. They provide financial services to people from a variety of financial institutions at most of these financial access vending machines.

However, there is an important missing capability, the ability to perform contractual transactions between the user, validated by the financial network access, and merchants from the financial access vending machine. Examples of such missing capabilities include, reservations for restaurants,
5 lodging, transport, recreational, sporting and cultural events. Today there is no way for a financial access vending machine user to find out where any of these mercantile products are locally available, arrange for such services or make reservations. This is a significant inconvenience to the users and a significant lost opportunity for the mercantile community.

10 These networks possess other limitations significantly impeding other desirable economic activities. Advertising is usually best done with motion video in environments such as television. However, motion video is bandwidth expensive, often requiring a minimum of 1-8 megabits per second. Most financial access vending networks use leased telephone lines shared
15 between several financial access vending machines. These telephone lines usually do not support more than 56K bits per second. Such network delivery mechanisms cannot support targeted advertising in the same way that cable television with a delivery mechanism of a gigabit optical fiber delivery mechanism does targeted advertising.

20 Figure 3 depicts a typical user interface 400 for a financial access vending machine containing a keypad array 410-1 to 410-12, a user view screen 420, access card insertion slot 430, printer output slot 440 and cash dispenser 450.

Note that in certain instances, access card insertion slot 430 may be a magnetic access card reader, in which the access card is passed over a
25 magnetic sensor to be read. In such instances, the card reader strictly reads but never writes to the access card. In other instances, access card insertion slot 430 may contain a smart card interface. Smart cards are distinguished by containing non-volatile memory and a communication interface by which that memory can be both read and written. There are a variety of smart cards in

production and a set of smart card interface standards which are part of the prior art in the financial access vending technology.

Cash dispenser 450 is common among such financial access vending machines, usually dispensing a single unit of currency, which in the United
5 States is most often twenty dollar bills.

As mentioned before, these financial access vending machines have become common over much of the world because they are a distinct improvement over the previous solutions, such as walking into a bank during business hours to transact business and either deposit or remove money from an
10 account. However, such machines have several limitations, which frustrate and/or inconvenience customers using such machines.

While the machines are internally identified for purposes of conducting secure communications with financial networks, the customer/user is given little or no useful information about the locale or identity of the financial access vending
15 machine. To give an example, someone in an airport, bus or train terminal may want to know where they are, where the taxies, rental cars, local-connecting buses are located with respect to the financial access vending machine site they are using. They may further be hungry or tired, and may want to know where various kinds of restaurants and hotels are located from
20 the financial access vending machine site. Note that this is useful not only to the financial access vending machine customer/user but also to the merchants providing such services and accommodations. Both groups would benefit from the availability of such information at the financial access vending machine site. Today, neither group has the opportunity for such advantages.

25 The customer/user may further wish to know about current real time events they are interested in, by way of example, sporting event scores, the status of various stocks in the open financial markets, election results, the weather or traffic locally and in various cities. Today, such information is not available at these financial access vending machine terminals.

The customer/user may wish to buy tickets to various entertainment and sporting events, but today, such ticket purchase must be done elsewhere, often requiring significant inconvenience and wasting of time standing in lines to access some other system or ticketing booth. In certain cases, for
5 especially major events, the tickets may go on sale and be completely sold out at times when many customers cannot even take part, except through some form of reservation system. Currently, such reservation systems usually require the customer to either visit a ticketing booth, waiting in often very long lines, attempt contact by telephone, often with even greater delays,
10 or else wait until the performance and hope nothing goes wrong in the reservation system. Being able to pick up such tickets at a financial access vending machine would greatly reduce the inconvenience associated with such ticketing procedures today.

To summarize, what is needed is a method of presenting financial access
15 vending machine specific content to users, which can be readily navigated by the user. What is needed is a method of presenting user specific content to users, which can be readily navigated by the user. What is further needed is a method of targeted advertising presentation in a financial access vending machine, which takes into account the financial access vending machine
20 identification and the user profile.

Existing networks of financial access vending machines are unable to perform contractual transactions from the financial access vending machine between the user, validated by the financial network access, and merchants. These networks are unable to make reservations for restaurants, lodging, transport,
25 recreational, sporting and cultural events. Today there is no way for a financial access vending machine user to learn what mercantile products are locally available, arrange for such services, make reservations or discover their locations. Users are significantly inconvenienced and the local mercantile communities are losing opportunities to sell their products and services every
30 day.

To summarize, what is needed is a method of presenting financial access vending machine specific content to users, which can be readily navigated by the user. What is needed is a method of presenting user specific content to users, which can be readily navigated by the user. What is further needed is a method of targeted advertising presentation in a financial access vending machine, which takes into account the financial access vending machine identification and the user profile.

Summary of the invention

Certain embodiments include a method of directing profile presentations across a network of vending machines controlled by a vending system server comprised of vending system server process and a process on each of the vending machines of the network.

The vending system server process is further comprised of generating a profile transmission list of profiles, associated with each vending machine of the network and sending each of the profiles in the associated profile transmission list to each vending machine of the network.

The process for each vending machine is further comprised of the following. Receiving the transmitted profile to create a received profile. Storing the received profile in a profile library of the vending machine to create a stored profile. Determining a profile selection from the profile library of the vending machine. And performing the profile selection to generate a user output stream.

Such embodiments advantageously support distribution of profiles from a vending machine server. Such embodiments further advantageously support performing the received and stored profiles on vending machines. Note that in certain embodiments, different profiles are sent and stored to different vending machines.

Certain further embodiments include generating the profile transmission list further comprised of filtering a transaction database to provide a transaction

summary based upon the profile request; and generating each of the profiles of the profile transmission list from the transaction summary based upon the profile request. Such embodiments advantageously filter a transaction database as part of creating a profile.

- 5 Certain further embodiments include generating a profile transmission list further comprised of the following. Creating a hierarchical filter comprised of a hierarchical filter entry for each profile request of each profile of the profile transmission list. Filtering using the hierarchical filter processing the transaction database to provide a transaction summary based upon a profile request for each profile of the profile transmission list. Generating each of the profiles of the profile transmission list from the transaction summary based upon the profile request of each profile of the transmission profile collection. Such embodiments advantageously support hierarchical filtering technology being applied to generate profiles.
- 10
- 15 Certain further embodiments comprise the profile request including a locale designator. Creating the hierarchical filter comprised of the hierarchical filter entry for each profile request of each of the profiles of the profile transmission list is further comprised of the following. Extracting a regulatory filter tree from a filter database for the locale designator of the profile request. Extracting a collection of user preference filters based upon the locale designator of the profile request. And constructing the hierarchical filter entry from the regulatory filter tree and from the user preference filter collection. Such embodiments advantageously support constructing the hierarchical filter entry from a regulatory filter tree and a user preference filter collection.
- 20
- 25 Certain further embodiments include the vending machine process for each vending machine further comprised of the following. Determining a user identification. And fetching a user profile associated with the user identification. Performing the profile selection to generate the user output stream is further comprised of performing the user profile. Such embodiments

advantageously support fetching and performing a user profile associated with a user identification.

Certain further embodiments include fetching the user profile associated with the user identification further comprised of requesting the user profile from the vending system server to create a user profile request by the vending machine and receiving the user profile from the vending system server. The vending system server process is further comprised of the following. Receiving the user profile request by the vending machine to create a received user profile request by the vending machine. Retrieving the user profile based upon the received user profile request by the vending machine. And sending the user profile to the vending machine. Such embodiments advantageously support retrieval from the vending system server of user profiles associated with user identifications.

Certain further embodiments include each of vending machines process further comprising ascertaining the locale time to create the perceived time. Performing the profile selection to generate a user output stream is further comprised of performing the profile selection to generate a user output stream based upon the perceived time. Such embodiments advantageously support timed local performance of profiles by the vending machines.

Certain further embodiments include determining a profile selection further comprised of determining a profile selection from the profile library of the *communicatively coupled vending machine based upon the perceived time*. Such embodiments advantageously support timed local selection of profiles for performance by the vending machines.

Certain embodiments comprise the profile selection including a presentation content reference. Performing the profile selection to generate the user output stream is further comprised of inserting the presentation content included in the profile selection into the user output stream. Such embodiments advantageously support insertion of presentation content into the user output stream of a vending machine.

Certain further embodiments comprise the presentation content including a motion video sequence. Inserting the presentation content included in the profile selection into the user output stream is further comprised of inserting the motion video sequence into the user output stream. Such embodiments
5 advantageously support the insertion of motion video content into a user output stream of a vending machine without an immediate bandwidth loading of the network, solving the major problem in delivering motion video service to vending machines across networks as discussed above in the prior art.

Certain further embodiments include sending each of the profiles contained in
10 the associated profile transmission list to each of the vending machines communicatively coupled to the network further comprised of the following. Sending the associated profile transmission list to each of the vending machines. Generating a transmission profile collection comprising profiles from the associated profile transmissions of the vending machines belonging
15 to a vending machine collection of the vending machines communicatively coupled to the network. Sending each of the profiles of the transmission profile collection to the vending machines of the vending machine collection to create a sent profile. Further, receiving the transmitted profile of the profile transmission list associated with the communicatively coupled vending
20 machine to create the received profile further comprises the following. Receiving the associated profile transmission list for the vending machine. Receiving the sent profile to create a received candidate profile. Determining whether the received candidate profile is included in the associated profile transmission list. Further, storing the received profile in the profile library is
25 comprised of storing the received profile in the profile library of the communicatively coupled vending machine to create the stored profile whenever the received candidate profile is included in the associated profile transmission list.

Such embodiments advantageously support multicast communication of
30 profiles to collections of vending machine communicatively coupled to the

network. This significantly reduces the bandwidth overhead in distributing the profiles to vending machines.

Certain embodiments include a method of generating a profile summary collection containing at least one profile summary for each profile request
5 contained in a profile request collection from a transaction database comprised of the following. Creating a hierarchical filter comprised of a hierarchical filter entry for each of said profile requests in said profile request collection. And filtering using said hierarchical filter processing said transaction database to provide a profile summary based upon said profile
10 request in said profile request collection.

Such embodiments advantageously support generating profile summaries including hierarchical filters, which reduce the traversal transaction databases and insure compliance with user and regulatory profile request, requirements and constraints.

15 Certain further embodiments include each of said profile requests in said profile request collection containing a locale designator. Creating said hierarchical filter comprised of said hierarchical filter entry for each profile request in said profile request collection is further comprised of the following. Extracting a regulatory filter tree from a filter database for said locale
20 designator of said profile request. Extracting a collection of user preference filters based upon said locale designator of said profile request. And constructing said hierarchical filter entry from said regulatory filter tree and from said user preference filter collection.

Such embodiments advantageously support generating hierarchical filter
25 entries based upon profile requests containing locale designators. Such embodiments further advantageously provide for collecting user preferences relevant to such locale designators. Such embodiments further advantageously provide for collecting the applicable regulatory filter tree for the designated locale.

Certain embodiments include program operating systems residing in the accessibly coupled computer memory of at least one server computer of the vending system server and at least one computer of each vending machine computer system supporting methods as discussed above.

- 5 Certain further embodiments include profiles implemented as program code segments residing in the accessibly coupled memory of the computer discussed above.

Certain other embodiments include the vending machine systems comprised of a network communicatively coupled to vending machine computers and
10 controlled by a vending system server containing at least one server computer supporting methods as discussed above.

These and other advantages of the present invention will become apparent upon reading the following detailed descriptions and studying the various figures of the drawings.

15 Brief Description of the Drawings

Figure 1 depicts a vending machine controller 100 as found in the prior art;

Figure 2 depicts a prior art system containing multiple vending machine controllers 100-1 to 100-6 interfaced to a vending network server 220 which is in turn coupled 302 to a financial network 300;

- 20 Figure 3 depicts a typical user interface 400 for a vending machine containing a keypad array 410-1 to 410-12, a user view screen 420, access card insertion slot 430, printer output slot 440 and cash dispenser 450;

Figure 4 depicts a simplified block diagram of a computer system 1000 controlling a financial access vending machine supporting a local user access
25 profile collection in accordance with certain embodiments;

Figure 5 depicts a simplified block diagram of computer system 1000 further containing a dispenser subsystem interface 1500 communicatively coupled 1108 to computer 1100 in accordance with certain further embodiments;

5 Figure 6 depicts a simplified system block diagram of dispenser subsystem interface 1500 in accordance with certain embodiments;

Figure 7 depicts local user access profile collection 1410 in accordance with certain embodiments;

10 Figure 8A depicts a presentation node collection 1600 coupled 1610 with computer 1100, comprising 1602 presentation reference 1610 associated 1612 with local access profile node 1420 of 1412 local user access profile collection 1410 coupled 1140 with computer 1100, in accordance with certain embodiments;

15 Figure 8B depicts user navigation command collection 1700 comprising a select node command 1710, a delete node command 1720 and a reset node list command 1730, in accordance with certain embodiments;

Figure 9 depicts a simplified system block diagram of computer 1100 communicatively coupled 1106 with user identifying interface subsystem 1300, as shown in Figure 4 comprising various subsystems in accordance with certain embodiments;

20 Figure 10 depicts a more detailed system block diagram of user identifying interface subsystem 1300 with its communicative coupling 1106 as shown in Figure 9 further comprising coupled subsystems in accordance with certain embodiments;

25 Figure 11 depicts a user output stimulus stream 1700 and several output stimulus streams contained in the user stimulus output stream, as well as user stimulus input stream 1800, received user input state 1810 and various derived components from the received user input state, in accordance with certain embodiments;

Figure 12 depicts an access card input state **1900** and various components associated with access card input state **1900** in accordance with certain embodiments;

5 Figure 13 depicts various components included in local user access profile collection **1410** in accordance with certain embodiments;

Figure 14 depicts a displayed user output stream on a user video screen **5000** indicating **5120** that the user should enter a PIN number, which will be displayed in region **5110**, in accordance with certain embodiments;

10 Figure 15 depicts a displayed user output stream on a user video screen **5000** indicating a transaction region **5200** and an advertising region **5240**, in accordance with certain embodiments;

Figure 16 depicts a displayed user output stream on a user video screen **5000** indicating a transaction region **5300** and an advertising region **5360**, in accordance with certain embodiments;

15 Figure 17 depicts a displayed user output stream on a user video screen **5000** indicating an advertising region **5370**, in accordance with certain embodiments;

20 Figure 18 depicts a displayed user output stream on a user video screen **5000** indicating a transaction region **5400** and an advertising region **5410**, in accordance with certain embodiments;

Figure 19 depicts a displayed user output stream on a user video screen **5000** indicating a transaction status region **5412** and an advertising region **5410** presenting a mercantile offer to contract, in accordance with certain embodiments;

25 Figure 20 depicts a displayed user output stream on a user video screen **5000** indicating a transaction status region **5512** and an advertising region **5510** showing acknowledgement of the user acceptance of a mercantile offer to contract creating a contract, in accordance with certain embodiments;

Figure 21 depicts a displayed user output stream on a user video screen 5000 indicating a transaction region 5800, in accordance with certain embodiments;

Figure 22 depicts a displayed user output stream on a user video screen 5000 indicating a transaction region 5900, in accordance with certain embodiments;

5 Figure 23 depicts a displayed user output stream on a user video screen 5000 indicating a transaction region 6000, in accordance with certain embodiments;

Figure 24 depicts a displayed user output stream on a user video screen 5000 indicating a transaction region 6100, in accordance with certain embodiments;

10 Figure 25 depicts a displayed user output stream on a user video screen 5000 indicating a displayed map 6200, in accordance with certain embodiments;

Figure 26 depicts a collection of object families contained in a program operating system residing in accessibly coupled computer memory of at least one computer in a computer system 1000 controlling a financial access vending machine in accordance with certain embodiments;

15 Figure 27 depicts a simplified system level diagram of the various communicative couplings of financial access vending machines 1000 and financial access mechanisms 8100 including financial access mechanism servers 8110, merchant access mechanisms 8200, vending system servers 8000, and other entities in accordance with certain embodiments;

20 Figure 28 depicts a simplified block diagram of a computer system 1000 to control a financial access vending machine supporting a local user access profile collection in accordance with certain embodiments;

Figure 29 depicts a simplified block diagram of computer system 1000 further containing a dispenser subsystem interface 1500 communicatively coupled
25 1108 to computer 1100 in accordance with certain further embodiments;

Figure 30 depicts locale identification 1400 including a local user access profile collection 1410 in accordance with certain embodiments;

Figure **31** depicts a presentation node collection **1600** comprising **1602** presentation reference **1610** associated **1612** with local access profile node **1420** of **1412** local user access profile collection **1410** included **1402** in locale identification **1400**, in accordance with certain embodiments;

- 5 Figure **32** depicts a simplified system level diagram of the various communicative couplings of financial access vending machines **1000** and financial access mechanisms **8100** including financial access mechanism servers **8110**, merchant access mechanisms **8200**, vending system servers **8000**, and other entities in accordance with certain embodiments;
- 10 Figure **33** depicts another simplified system level diagram of the various communicative couplings of financial access vending machines **1000** and financial access mechanisms **8100** including financial access mechanism servers **8110**, merchant access mechanisms **8200**, financial access vending system servers **8000**, and other entities in accordance with certain
- 15 embodiments;

Figure **34A** depicts a detail object family diagram of core services object family **7000** as depicted in Figure **26**, in accordance with certain embodiments;

- Figure **34B** depicts a detail diagram of Figures **26** and **34A** showing the
- 20 device management object family **7400** and its primary interactions with other object families of Figures **26** and **34A**, in accordance with certain embodiments;

- Figure **35** depicts a mechanism of generating members of the collection of local user access profile collections **8030** and generating members of the user
- 25 profile collection **8020** in accordance with certain embodiments;

Figure **36** depicts a mechanism of generating members of the locale identification collection **8010** and generating members of the user profile collection **8020** in accordance with certain embodiments;

Figure **37** depicts a simplified flow diagram of filter hierarchy **8500** as shown in Figures **35** and **36**, in accordance with certain embodiments;

Figure **38** depicts a flowchart performing the process for each of the vending machines communicatively coupled to the network in accordance with certain
5 embodiments;

Figure **39A** depicts a flowchart performing a vending system server process in accordance with certain embodiments;

Figure **39B** depicts a detail flowchart of operation **2034** of Figure **39A** further performing generating a profile transmission list containing at least one profile,
10 associated with each of the vending machines communicatively coupled to the network in accordance with certain embodiments;

Figure **40** depicts a detail flowchart of operation **2034** of Figure **39A** further performing generating a profile transmission list containing at least one profile, associated with each of the vending machines communicatively coupled to
15 the network in accordance with certain embodiments;

Figure **41** depicts a detail flowchart of operation **2072** of Figure **40** further performing creating the hierarchical filter comprised of the hierarchical filter entry for each profile request of each of the profiles of the profile transmission list in accordance with certain embodiments;

20 Figure **42A** depicts a detail flowchart of operation **2000** of Figure **38** further performing the process for each of the communicatively coupled vending machines in accordance with certain embodiments;

Figure **42B** depicts a detail flowchart of operation **2016** of Figure **38** performing the profile selection to generate the user output stream in
25 accordance with certain embodiments;

Figure **43A** depicts a detail flowchart of operation **2116** of Figure **42A** further performing fetching the user profile associated with the user identification in accordance with certain embodiments;

Figure **43B** depicts a detail flowchart of operation **2030** of Figure **39A** further performing the vending system server process in accordance with certain embodiments;

5 Figure **44A** depicts a detail flowchart of operation **2000** of Figure **38** further performing the process for each of the communicatively coupled vending machines in accordance with certain embodiments;

Figure **44B** depicts a detail flowchart of operation **2016** of Figure **38** performing the profile selection to generate a user output stream based upon the perceived time in accordance with certain embodiments;

10 Figure **44C** depicts a detail flowchart of operation **2012** of Figure **38** performing determining a profile selection from the profile library of the communicatively coupled vending machine based upon the perceived time in accordance with certain embodiments;

15 Figure **45A** depicts a detail flowchart of operation **2016** of Figure **38** performing inserting the presentation content included in the profile selection into the user output stream in accordance with certain embodiments; and

20 Figure **45B** depicts a detail flowchart of operation **2252** of Figure **45A** performing inserting the motion video sequence included in the presentation content included in the profile selection into the user output stream in accordance with certain embodiments.

Detailed Description of the Invention

Figure **4** depicts a simplified block diagram of a computer system **1000** controlling a financial access vending machine supporting local user access profile collection in accordance with certain embodiments.

25 Computer system **1000** comprises a computer **1100** accessibly coupled **1102** to computer memory **1200**. As used herein a computer system comprises at least one computer accessibly coupled to a computer memory. In certain embodiments, computer system **1000** comprises at least two computers, each

with separate accessibly coupled computer memories. In certain embodiments, computer system **1000** comprises at least two computers, each sharing an accessibly coupled computer memory.

As used herein, accessibly coupled computer memory **1200** includes at least
5 a non-volatile memory. The non-volatile memory may be comprised of more than one non-volatile memory component. Access to a non-volatile memory component may be further organized about a file management system. Accessibly coupled memory **1200** may further include a volatile memory. Volatile memory may be comprised of more than one volatile memory
10 component. Volatile memory components may include but are not limited to static RAM and various forms of Dynamic RAM. Access to a volatile memory component may be further organized as a cache memory interface to an often larger and slower memory component, which may be either volatile or non-volatile. The cache memory interface may be further multi-leveled, where
15 successive levels of the cache memory incorporate a slower memory transfer rate to (an often) larger amount of memory.

As used herein, computer refers to an instruction-processing computer, an inference engine or an analog computer. An instruction-processing computer as used herein refers to either a Single Instruction Single Datapath (SISD)
20 computer, Single Instruction Multiple Datapath (SIMD) computer, Multiple Instruction Single Datapath (MISD) computer, or a Multiple Instruction Multiple Datapath (MIMD) computer. Examples of SISD computers include microprocessors. Microprocessors as used herein, include but are not limited to super-scalar microprocessors, which concurrently execute components of
25 several successive instructions of a single instruction stream involving a single datapath. Instruction processing mechanisms include but are not limited to native code execution mechanisms such as found in a 80x086 microprocessor, byte code interpreters such as JAVA and MPEG 4 use, threaded execution structures such as FORTH and Postscript use, or
30 combinations of the above.

As used herein, inference engines operate upon a fact based and an inference rule collection. Execution of inference engines may be based upon unification processes, constraint satisfaction mechanisms and neural network threshold-stimuli mechanisms. Instructions as used herein for such inference engines would include the facts and inference rules presented to the inference engine.

As used herein, analog computers include but are not limited to circuitry composed exclusively of analog circuit, or devices of mixed analog and digital circuitry. Instructions presented to analog computer will either provide a pattern or set internal controls. The internal controls may be addressable and may further include branching mechanisms which would be triggered either by time durations or through application of thresholding decision functions. Examples of such controls include use of different filter coefficients for voices speaking the same language with distinctive accents.

By way of example, a device including a Charge Coupled Device (CCD) combined with a signal processing subsystem may serve as a fingerprint based user identification device, and would primarily employ analog input and produce a digital output characterizing the fingerprint. The instructions for this device would be fairly straightforward, primarily accounting for specific filters to normalize background skins coloration and lighting effects such as scratches on the fingerprint portal and ambient lighting. Alternatively, a digital characterization of the expected fingerprint might be input, and a simple match-no match result might be the usual output of the device. In such cases, the device would be considered an essentially analog computer whose instruction processing mechanism would be the digital fingerprint pattern.

As used herein, program code segments refer to collections of instructions collectively performing some operation, which could operate an instruction processor, inference engine or analog computer. Distinct program code segments could employ distinct instruction formats and operate distinct computers. By way of example, certain program code segments could be in

native code for an 80x86 microprocessor, while other program code segments could be written in JAVA™ and yet other program code segments could be written in HTML (Hyperlink Text Markup Language). Still other program code segments could provide a fingerprint characterization. Still other program code segments could provide a voice print characterization.

Still other program code segments could provide a rules collection to determine appropriate advertising for the day of the week and the location of the financial access vending machine as well as other stored information and user preferences. Still other program code segments could provide a collection of MPEG 4 streams containing different financial and/or mercantile advertising and offers.

Computer system **1000** further comprises a user identifying interface subsystem **1300** communicatively coupled **1106** with computer **1100**. User identifying subsystem **1300** includes at least one mechanism presenting a user stimulus output stream to a user and at least one mechanism by which computer system **1000** is stimulated by a user to generate a user stimulus input stream. Embodiments of this subsystem will be discussed in greater detail later. User identifying interface subsystem **1300** can gather information sufficient to adequately identify the user for purposes of transacting financial and mercantile exchanges and agreements. In certain further embodiments, user identifying interface subsystem **1300** further provides the user with mercantile offers, selection capability for financial and mercantile transactions and presentation of graphical data including at least one of the collection of presentation of maps and motion video.

Computer system **1000** further comprises local user access profile collection **1410** communicatively coupled **1140** with computer **1100**. In certain embodiments, local user access profile collection **1410** contains an encapsulated system component coupled by an internal communication transport layer **1140** to computer **1100**. Such an internal communication transport layer **1140** may be wireline in certain further embodiments. In

certain further embodiments, the wireline transport layer **1140** includes an optical fiber, coaxial cable, twisted pair, ribbon cable, or buss strips on a printed circuit board. In certain further embodiments, local user access profile collection **1410** encapsulated system component further contains nonvolatile
5 memory. In certain further embodiments, local identification **1410** encapsulated system component contains writable nonvolatile memory. In certain further embodiments, at least a part of the nonvolatile memory of local user access profile collection **1410** encapsulated system component is organized and accessed as a file management system. In certain other further
10 embodiments, local user access profile collection **1410** encapsulated system component contains write-once nonvolatile memory.

In certain embodiments, local user access profile collection **1410** resides in part of computer memory **1200**. In certain further embodiments, local identification **1410** resides in a portion of at least one nonvolatile memory
15 component of computer memory **1200**. In certain further embodiments, local user access profile collection **1410** is organized and accessed **1140** as a file management system.

In certain embodiments, communicative coupling **1140** between local identification **1410** and computer **1100** employs coding technology. Coding
20 technology as used herein will refer to error detection codes, error detection and correction codes, encryption codes and combinations of these coding technologies. In certain further embodiments, communicative coupling **1140** employs distinct coding technologies depending upon whether the computer **1100** is performing reading or writing access of local user access profile
25 collection **1410**.

The financial access vending machine is controlled by the computer system **1000** executing a program operating system of program code segments residing in the accessibly coupled computer memory of at least one of the computers of the computer system.

A program operating system is a collection of program code segments residing in the memory of one or more computers comprising the computing system **1000**. A program operating system serves as an overall organization for the performance of the operations, which may be performed in an essentially concurrent manner on one or more of the computers comprising the computer system controlling the financial access vending machine.

A program code segment may be further comprised of a collection of more than one program code segment. These separate program code segments may be comprised of instructions in distinct languages, executing concurrently on distinct computers within the computer system.

In certain embodiments, one program code segment may be executing on a specialized graphics computer (not shown in the diagrams) to implement generation of an MPEG motion video stream as part of generating the user stimulus output stream. In certain embodiments, a second program code segment may be concurrently executing on a (Digital Signal Processing) DSP computer (not shown in the diagrams) to implement generation of an associated compressed audio stream as part of generating the user stimulus output stream. In certain embodiments, a third program code segment may be concurrently executing on computer **1100** to receive the user stimulus input stream from the user identifying interface to create at least part of the received user input state.

Figure 5 depicts a simplified block diagram of computer system **1000** further containing a dispenser subsystem interface **1500** communicatively coupled **1108** to computer **1100** in accordance with certain further embodiments.

As discussed in Figure 4, computer system **1000** comprises a computer **1100** accessibly coupled **1102** to computer memory **1200**. As used herein a computer system comprises at least one computer accessibly coupled to a computer memory. In certain embodiments, computer system **1000** comprises at least two computers, each with separate accessibly coupled computer

memories. In certain embodiments, computer system **1000** comprises at least two computers, each sharing an accessibly coupled computer memory.

As discussed in Figure 4, computer system **1000** further comprises a user identifying interface subsystem **1300** communicatively coupled **1106** with computer **1100**. User identifying subsystem **1300** includes at least one
5 mechanism presenting a user stimulus output stream to a user and at least one mechanism by which computer system **1000** may be stimulated by a user to generate a user stimulus input stream. Embodiments of this subsystem will be discussed in greater detail later. User identifying interface subsystem **1300**
10 can gather information sufficient to adequately identify the user for purposes of transacting financial and mercantile exchanges and agreements. In certain further embodiments, user identifying interface subsystem **1300** further provides the user with mercantile offers, selection capability for financial and mercantile transactions and presentation of graphical data including at least
15 one of the collection of presentation of maps and motion video.

As discussed in Figure 4, computer system **1000** further comprises local user access profile collection **1410** communicatively coupled **1140** with computer **1100**. In certain embodiments, local user access profile collection **1410** contains an encapsulated system component coupled by an internal
20 communication transport layer **1140** to computer **1100**. Such an internal communication transport layer **1140** may be wireline in certain further embodiments. In certain further embodiments, the wireline transport layer **1140** includes an optical fiber, coaxial cable, twisted pair, ribbon cable, or buss strips on a printed circuit board. In certain further embodiments, local
25 user access profile collection **1410** encapsulated system component further contains nonvolatile memory. In certain further embodiments, local identification **1410** encapsulated system component contains writable nonvolatile memory. In certain further embodiments, at least a part of the nonvolatile memory of local user access profile collection **1410** encapsulated
30 system component is organized and accessed as a file management system.

In certain other further embodiments, local user access profile collection **1410** encapsulated system component contains write-once nonvolatile memory.

As discussed in Figure 4, in certain embodiments, local user access profile collection **1410** resides in part of computer memory **1200**. In certain further
5 embodiments, local identification **1410** resides in a portion of at least one nonvolatile memory component of computer memory **1200**. In certain further embodiments, local user access profile collection **1410** is organized and accessed **1140** as a file management system.

As discussed in Figure 4, in certain embodiments, communicative coupling
10 **1140** between local identification **1410** and computer **1100** employs coding technology. Coding technology as used herein will refer to error detection codes, error detection and correction codes, encryption codes and combinations of these coding technologies. In certain further embodiments, communicative coupling **1140** employs distinct coding technologies
15 depending upon whether the computer **1100** is performing reading access or writing access of local user access profile collection **1410**.

Not previously shown or discussed in Figure 4, computer system **1000** further comprises dispenser subsystem interface **1500** communicatively coupled with an internal communication transport layer **1108** with computer **1100**. Such an
20 internal communication transport layer **1108** may be wireline in certain further embodiments. In certain further embodiments, the wireline transport layer **1108** includes an optical fiber, coaxial cable, twisted pair, ribbon cable, or buss strips on a printed circuit board.

Not previously shown or discussed in Figure 4, in certain embodiments,
25 communicative coupling **1108** between dispenser subsystem interface **1500** and computer **1100** employs coding technology. In certain further embodiments, communicative coupling **1108** employs distinct coding technologies depending upon whether the computer **1100** is performing input or output access of dispenser subsystem interface **1500**. Coding technology
30 as used herein will refer to at least error detection codes, error detection and

correction codes, encryption codes and combinations of these coding technologies.

Figure 6 depicts a simplified system block diagram of dispenser subsystem interface **1500** in accordance with certain embodiments.

- 5 In certain embodiments, dispenser subsystem interface **1500** comprises a certificate dispenser controlled by certificate dispenser interface **1510** which is further coupled **1512** to dispenser subsystem interface communicative coupling **1108**. In certain further embodiments, dispenser subsystem interface **1500** further comprises a second certificate dispenser controlled by
10 certificate dispenser 2 interface **1520** which is further coupled **1522** to dispenser subsystem interface communicative coupling **1108**.

- In certain further embodiments, the certificate dispenser controlled by certificate dispenser interface **1510** further includes a certificate printer controlled by certificate dispenser interface **1510**. In certain further
15 embodiments, the certificate printer is fed printable media, including but not limited to, paper or card stock. In certain further embodiments, the certificate printer is fed paper or card stock, which has been previously treated with identifying markings. In certain further embodiments, these previously treated identifying markings include trademarks, digital, image or embossed
20 watermarks on one or both sides of the paper or card stock. In certain other further embodiments, the certificate printer is multiple-sheet printer.

- Certificate dispensers may be used to generate information regarding specific financial access mechanism transactions and logs of such transactions. Certificate dispensers may also generate receipts of mercantile contracts
25 including reservations for accommodations, transportation, restaurants, as well as tickets to entertainment, sporting events, recreational activities or other cultural or religious events. Such tickets for recreational activities include but are not limited to ski lift tickets. Certificate dispensers may also generate maps and travel directions.

In certain embodiments, dispenser subsystem interface **1500** comprises a money dispenser controlled by money dispenser interface **1530** which is further coupled **1532** to dispenser subsystem interface communicative coupling **1108**. In certain further embodiments, dispenser subsystem interface **1500** further comprises a second money dispenser controlled by money dispenser 2 interface **1540** which is further coupled **1542** to dispenser subsystem interface communicative coupling **1108**. Note that in certain embodiments, multiple money dispensers may be provided to dispense moneys from different monetary systems.

10 Certain embodiments include dispenser subsystem interface **1500** comprising both a money dispenser controlled by money dispenser interface **1530** and a certificate dispenser controlled by certificate dispenser interface **1510**. Certain further embodiments comprise more than two certificate dispensers. Certain other further embodiments comprise more than two money dispensers.

15 Certain embodiments include dispenser subsystem interface **1500** comprising other dispenser interface **1550** which is further coupled **1532** to dispenser subsystem interface communicative coupling **1108**. In certain embodiments, other dispenser interface **1550** controls other dispensers, including but not limited to bottle dispensers. In certain embodiments, other dispenser interface **1550** controls other dispensers, including but not limited to canister dispensers. In certain embodiments, other dispenser interface **1550** controls other dispensers, including but not limited to package dispensers.

Figure 7 depicts local user access profile collection **1410** in accordance with certain embodiments.

25 In certain embodiments, computer **1100** is communicatively coupled **1140** to local user access profile collection **1410** which, in turn, contains **1412** local access profile node **1420**.

In certain further embodiments, local access profile node **1420** contains **1432** a textual presentation content **1430**.

In certain other further embodiments, local access profile node **1420** contains **1442** a graphical presentation content **1440**.

In certain further embodiments, local access profile node **1420** contains **1432** graphical presentation content **1440**, which in turn contains **1452** motion video content presentation **1450**.

In certain further embodiments, local access profile node **1420** contains **1462** a synchronized audio sequence **1460**. In certain embodiments, the synchronization of the synchronized audio sequence **1460** is based upon local access profile node **1420**. In certain further embodiments, the synchronization of the synchronized audio sequence **1460** is based upon graphical presentation content **1440** as a whole. In certain further embodiments, the synchronization of the synchronized audio sequence **1460** is based upon motion video content presentation **1450**. In certain other embodiments, the synchronization of the synchronized audio sequence **1460** is based upon textual presentation content **1430**.

In certain further embodiments, local access profile node **1420** contains more than one synchronized audio sequence.

In certain further embodiments, local access profile node **1420** contains **1432** graphical presentation content **1440**, containing more than one motion video content presentation.

In certain embodiments local access profile node **1420** contains more than one graphical presentation content.

In certain other further embodiments, local user access profile collection **1410** contains **1414** a second local access profile node **1422**. Additionally, local access profile node **1420** contains **1472** a link **1470** referencing **1474** the second local access profile node **1422**. In certain further embodiments, local user access profile collection **1410** contains a third local access profile node, and local access profile node **1420** contains a second link, referencing the third local access profile node. In certain further embodiments, a local access

profile node may contain more than two links referencing other local access profile nodes, which may or may not all be distinct local access profile nodes.

Figure 8A depicts a presentation node collection 1600 coupled 1610 with computer 1100, comprising 1602 presentation reference 1610 associated
5 1612 with local access profile node 1420 of 1412 local user access profile collection 1410 coupled 1140 with computer 1100, in accordance with certain embodiments.

Note that in certain embodiments, presentation node collection 1600 may comprise more than one presentation reference. In certain embodiments, the
10 default presentation node collection may contain a default presentation reference associated with an initial local access profile node. The initial local access profile node may contain a welcome textual message, graphical presentation content, motion video sequence and/or a synchronized audio sequence which may repetitively be presented until user triggered stimulus is
15 received in the user stimulus input stream.

In certain embodiments, presentation node collection 1600 is communicatively coupled 1610 to computer 1100 of computer system 1000. Such coupling 1610 may be through residing in computer memory 1200, in certain further embodiments. Coupling 1610 can be effected as a communications link to a
20 physically distinct unit, such as a PCMCIA card, or embedded processor subsystem, in certain embodiments. In certain further embodiments, coupling 1610 includes a physical transport layer. In certain further embodiments, coupling 1610 physical transport layer includes, but is not limited to, a wireline physical transport layer. Such wireline physical transport layers include but
25 are not limited to electromagnetic and optical signaling physical transport mechanisms. In certain other further embodiments, coupling 1610 physical transport layer includes, but is not limited to, a wireless physical transport layer. Such wireless physical transport layers include but are not limited to electromagnetic field, microwave, infrared and optical wireless physical
30 transport layers.

In certain further embodiments, presentation node collection **1600** acts as a list of presentation references. In certain other further embodiments, presentation node collection **1600** acts as a table of presentation references. In certain other further embodiments, presentation node collection **1600** acts as a file of presentation references accessed as through a file management system. In certain other further embodiments, presentation node collection **1600** acts as a collection of presentation program code segments. In certain further embodiments, presentation node collection **1600** acts as a collection of presentation program code segments in JAVA. In certain further embodiments, presentation node collection **1600** acts as a collection of presentation program code segments in HTML (Hyper Text Markup Language). In certain further embodiments, presentation node collection **1600** acts as a collection of presentation program code segments in VRML (Virtual Reality markup Language). In certain further embodiments, presentation node collection **1600** acts as a collection of presentation program code segments in ActiveX.

Figure **8B** depicts user navigation command collection **1700** comprising a select node command **1710**, a delete node command **1720** and a reset node list command **1730**, in accordance with certain embodiments.

In certain embodiments, the user stimulates the financial access vending machine whereby the user identifying interface includes in the user stimulus input stream designations referring to one or more of the members of the user navigation command collection **1700**.

Figure **9** depicts a simplified system block diagram of computer **1100** communicatively coupled **1106** with user identifying interface subsystem **1300**, as shown in Figure **4** comprising various subsystems in accordance with certain embodiments.

In certain further embodiments, user identifying interface subsystem **1300** comprises user presentation subsystem **1310** communicatively coupled **1130** to computer **1100** via communicative coupling **1106** between user identifying

interface subsystem **1300** and computer **1100**. User identifying interface subsystem **1300** further comprises user response subsystem **1320** communicatively coupled **1132** to computer **1100** via communicative coupling **1106** between user identifying interface subsystem **1300** and computer **1100**.

- 5 In certain further embodiments, user identifying interface subsystem **1300** comprises access card interface subsystem **1310** communicatively coupled **1134** to computer **1100** via communicative coupling **1106** between user identifying interface subsystem **1300** and computer **1100**.

Figure **10** depicts a more detailed system block diagram of user identifying interface subsystem **1300** with its communicative coupling **1106** as shown in
10 Figure **9** further comprising coupled subsystems in accordance with certain embodiments.

As shown in Figure **9**, in certain further embodiments, user identifying interface subsystem **1300** comprises user presentation subsystem **1310**
15 communicatively coupled **1130** to computer **1100** via communicative coupling **1106** between user identifying interface subsystem **1300** and computer **1100**. User identifying interface subsystem **1300** further comprises user response subsystem **1320** communicatively coupled **1132** to computer **1100** via communicative coupling **1106** between user identifying interface subsystem
20 **1300** and computer **1100**.

In certain further embodiments, user presentation subsystem **1310** is comprised of user video subsystem **1314** communicatively coupled **1312** to computer **1100** via coupling **1130** and via coupling **1106**. User video subsystem **1314** supports motion video screen presentations in certain further
25 embodiments. User video subsystem **1314** supports more than two-dimensional presentations in certain further embodiments. User video subsystem **1314** supports more than two-dimensional motion video presentations in certain further embodiments.

In certain further embodiments, user presentation subsystem **1310** is comprised of user acoustic output subsystem **1318** communicatively coupled **1316** to computer **1100** via coupling **1130** and via coupling **1106**. User acoustic output subsystem **1318** supports single channel, or monophonic, acoustic presentations in certain further embodiments. User acoustic output subsystem **1318** supports multiple channel acoustic presentations in certain further embodiments.

In certain further embodiments, user response subsystem **1320** is comprised of user tactile interface subsystem **1340** communicatively coupled **1341** to computer **1100** via coupling **1356** and via coupling **1132** and via coupling **1106**. As used herein tactile refers to the physical presence of the user, which may be sensed by physical contact, or physical proximity to the financial access vending machine, or parts of the financial access vending machine.

In certain further embodiments, user tactile interface subsystem **1340** is comprised of user touch input subsystem **1342** communicatively coupled **1341** to computer **1100** via coupling **1351** and via coupling **1156** and via coupling **1132** and via coupling **1106**.

In certain further embodiments, user touch input subsystem **1342** is comprised of user touch keypad subsystem **1346** communicatively coupled **1344** to computer **1100** via coupling **1341** and via coupling **1351** and via coupling **1156** and via coupling **1132** and via coupling **1106**. In certain further embodiments, user touch keypad subsystem **1346** includes a traditional user touch keypad. In certain other further embodiments, user touch keypad subsystem **1346** includes a touch sensitive membrane. In certain further embodiments the touch sensitive membrane is at least partially transparent and mounted near at least a portion of the user video subsystem. The user is directed by the displayed presentation material to respond by touch to certain regions of the touch sensitive membrane. In certain further embodiments, proximity sensors or sensor arrays are employed as the user touch keypad

subsystem. These proximity sensors may be further aligned with the presentation of the user video subsystem to direct the user to move within the sensor range of the proximity sensors.

In certain further embodiments, user touch input subsystem **1342** is comprised of user handprint sensor subsystem **1350** communicatively coupled **1348** to computer **1100** via coupling **1341** and via coupling **1151** and via coupling **1356** and via coupling **1132** and via coupling **1106**. As used herein, handprint sensor refers not only to sensing the entire handprint, but also the ridge pattern of a finger or thumb, or combination of fingers and thumbs.

In certain further embodiments, user tactile interface subsystem **1340** is comprised of user retinal sensor subsystem **1354** communicatively coupled **1352** to computer **1100** via coupling **1351** and via coupling **1156** and via coupling **1132** and via coupling **1106**. Note that in certain further embodiments, the user's face comes in close proximity to the retinal scanner subsystem. In certain other further embodiments, the user's face touches the retinal scanner subsystem.

In certain further embodiments, user response subsystem **1320** is comprised of user photographic sensor subsystem **1358** communicatively coupled **1360** to computer **1100** via coupling **1356** and via coupling **1132** and via coupling **1106**. In certain further embodiments, user photographic sensor subsystem **1358** captures a still frame of the user. In certain further embodiments, user photographic sensor subsystem captures a sequence of frames incorporating an aspect of motion regarding the user. In certain further embodiments, such captured motion information can be used to interpret sign language.

In certain further embodiments, user response subsystem **1320** is comprised of user acoustic sensor subsystem **1362** communicatively coupled **1364** to computer **1100** via coupling **1356** and via coupling **1132** and via coupling **1106**. In certain further embodiments, user acoustic sensor subsystem **1362** includes ambient noise acoustic sensors. In certain further embodiments, user

acoustic sensor subsystem **1362** includes ambient noise acoustic suppression of the user acoustic input stream.

As shown in Figure 9, in certain further embodiments, user identifying interface subsystem **1300** comprises access card interface subsystem **1310**
5 communicatively coupled **1134** to computer **1100** via communicative coupling **1106** between user identifying interface subsystem **1300** and computer **1100**.

In certain further embodiments, access card interface subsystem **1310** comprises access card interface **1334** communicatively coupled **1332** to computer **1100** via coupling **1331** and via coupling **1106**. In certain further
10 embodiments, access card interface **1334** includes the capability to read a magnetic strip access card. In certain other further embodiments, access card interface **1334** includes the capability to read a smart card.

In certain further embodiments, access card interface subsystem **1310** comprises access card interface **1338** communicatively coupled **1336** to
15 computer **1100** via coupling **1331** and via coupling **1106**. In certain further embodiments, access card interface **1338** includes the capability to read a magnetic strip access card. In certain other further embodiments, access card interface **1338** includes the capability to read a smart card.

As used herein, the various couplings, layers of couplings and tree structure
20 of couplings may be implemented with either wireline or wireless physical transport layers. The physical transport layers may vary from one coupling to another. Each layer of coupling may further interface to the more detailed layers of couplings through gateway mechanisms which may vary from simple transponders to sophisticated coding translation mechanisms between
25 coupling layer transponders.

Figure 11 depicts a user output stimulus stream **1700** and several output stimulus streams contained in the user stimulus output stream, as well as user stimulus input stream **1800**, received user input state **1810** and various

derived components from the received user input state, in accordance with certain embodiments.

In certain embodiments, user output stimulus stream **1700** is comprised of user audio video output stream **1710**. In certain further embodiments, user
5 audio video output stream **1710** is further comprised of user video output stream **1720** and user audio output stream **1730**. In certain further embodiments, user video output stream **1720** supports motion video. In certain further embodiments, user video output stream **1720** supports more than two-dimensional presentations. In certain further embodiments, user
10 video output stream **1720** supports more than two-dimensional motion video. In certain other further embodiments, a synchronization scheme between at least part of the user video output stream and the user audio output stream is employed.

In certain embodiments, user output stimulus stream **1700** is comprised of
15 user video output stream **1720** and user audio output stream **1730**. In certain further embodiments, user video output stream **1720** supports motion video. In certain further embodiments, user video output stream **1720** supports more than two-dimensional presentations. In certain further embodiments, user video output stream **1720** supports more than two-dimensional motion video.
20 In certain other further embodiments, a synchronization scheme between at least part of the user video output stream and the user audio output stream is employed.

In certain embodiments, user output stimulus stream **1700** is comprised of user video output stream **1720**. In certain further embodiments, user video
25 output stream **1720** supports motion video. In certain further embodiments, user video output stream **1720** supports more than two-dimensional presentations. In certain further embodiments, user video output stream **1720** supports more than two-dimensional motion video.

In certain embodiments, user stimulus input stream **1800** is further comprised of user audio input stream **1802**. In certain embodiments, user stimulus input stream **1800** is further comprised of user tactile input stream **1804**.

5 In certain embodiments, user stimulus input stream **1800** is processed to create received user input state **1810**.

In certain further embodiments, received user input state **1810** is processed to create user navigation input **1812**.

In certain further embodiments, received user input state **1810** is processed to create user identification **1814**.

10 In certain further embodiments, received user input state **1810** is processed to create financial transaction request message **1816**.

In certain further embodiments, received user input state **1810** is processed to create user acceptance state **1818**.

15 In certain further embodiments, received user input state **1810** is processed to create acceptance financial access request message **1820**. In certain further embodiments, received user input state **1810** and user acceptance state **1818** are processed to create acceptance financial access request message **1820**.

In certain further embodiments, received user input state **1810** is processed to create user dispenser option command **1822**.

20 In certain further embodiments, received user input state **1810** is processed to create user node selection **1824**.

In certain further embodiments, received user input state **1810** is processed to create user tactile input state **1826**. In certain further embodiments, user tactile input state **1826** is processed to create user identification state **1828**.

25 Figure **12** depicts an access card input state **1900** and various components associated with access card input state **1900** in accordance with certain embodiments.

In certain embodiments, a financial access mechanism reference **1902** may be derived from access card input state **1900**. In certain further embodiments, a financial access mechanism reference **1902** may be derived from access card input state **1900** and from the user stimulus input stream.

- 5 In certain other embodiments, a financial access mechanism choice list **1910** may be derived from access card input state **1900**. In certain further embodiments, financial access mechanism choice list **1910** contains a first financial access mechanism reference choice **1912**. In certain further embodiments, financial access mechanism choice list **1910** contains two
- 10 financial access mechanism reference choices **1912** and **1914**. In certain further embodiments, financial access mechanism choice list **1910** contains more than two financial access mechanism reference choices **1912**, **1914** and **1916**.

- Figure **13** depicts various components included in local user access profile
- 15 collection **1410** in accordance with certain embodiments.

In certain embodiments, local user access profile collection **1410** includes **1472** locale topographic database **1470**.

In certain embodiments, local user access profile collection **1410** includes **1474** default map **1476**.

- 20 In certain embodiments, local user access profile collection **1410** includes **1482** local merchant collection **1480**. In certain further embodiments, local merchant collection **1480** includes **1484** local merchant entry **1486** containing at least the merchant name and merchant location. In certain further embodiments, local merchant collection **1480** includes more than one local
- 25 merchant entry. In certain other further embodiments, a local merchant entry includes a mercantile classification. In certain further embodiments, the mercantile classification includes designations for food, clothing, shelter and transportation. In certain further embodiments, the mercantile classification

includes attributed designations such as food:restaurant, food:grocery, transportation:bus, etc.

In certain embodiments, local user access profile collection **1410** includes **1492** user input history collection **1490**. In certain further embodiments, user
5 input history collection includes **1494** at least one user input history bin **1496**.

Figure **14** depicts a displayed user output stream on a user video screen **5000** indicating **5120** that the user should enter a PIN number, which will be displayed in region **5110**, in accordance with certain embodiments.

Figure **15** depicts a displayed user output stream on a user video screen **5000**
10 indicating a transaction region **5200** and an advertising region **5240**, in accordance with certain embodiments.

Transaction region **5200** comprises a user identified response **5210** and a selection list of financial access mechanisms and mercantile transactions including quick cash **5220**, get cash **5222**, deposit **5224**, transfer **5226**,
15 balances **5228**, buy stamps **5230** and what's new **5232**. There is a cancel region **5234** in the transaction region **5200**. Each of the selection list regions and the cancel region represent a portion of a touch sensitive membrane covering the user video screen upon which the user may touch the display to have the financial access vending machine computer register a response.

20 Advertising region **5240** includes an advertising message, advertisement picture and logo **5242**. Note that advertising region **5240** may include any combination of some or all of these components, and multiple instances of certain of these components. These components often include copyrighted and trademarked material of the mercantile interests paying fees, for the
25 privilege of being seen on the user view screen, to the financial access vending machine owner or franchise owner. In certain embodiments, there may be more than one advertising region **5240** representing different mercantile interests.

As used herein, a mercantile interest includes but is not limited to organizations considered for profit by their national or regional tax boards. Mercantile organizations include but are not limited to religious organizations advertising gambling events, such as bingo games, humanitarian
5 organizations advertising for food and clothing for disaster victims, political parties advertising political candidates for upcoming elections, to name just a few examples.

Note that in certain embodiments, the background of region **5200** and/or **5240** may include motion video. In certain embodiments, specific components of
10 region **5200** and/or **5240** may include motion video.

Figure **16** depicts a displayed user output stream on a user video screen **5000** indicating a transaction region **5300** and an advertising region **5360**, in accordance with certain embodiments.

Transaction region **5300** comprises a selection list of financial access
15 mechanisms and mercantile transactions including checking **5330**, saving **5332**, MMA/MRA **5334**, Credit Card **5326**, Credit Line **5328**, Investment **5340** and Other **5342**. There is an amount button region **5350**, which activates a pull down selection menu. There is a Back region **5334** and OK region **5322** of the transaction region **5300**. Each of the selection list regions and the Back
20 region and OK region represents a portion of a touch sensitive membrane covering the user video screen upon which the user may touch the display to have the financial access vending machine computer register a response.

Advertising region **5360** includes an advertising message, logo and find out more region **5362**. The find out more region **5362** represents a portion of a
25 touch sensitive membrane covering the user video screen upon which the user may touch the display to have the financial access vending machine computer register a response. Note that advertising region **5360** may include any combination of some or all of these components, and multiple instances of certain of these components. These components often include copyrighted
30 and trademarked material of mercantile interests paying fees, for the privilege

of being seen on the user view screen, to the financial access vending machine owner or franchise owner. In certain embodiments, there may be more than one advertising region **5360** representing differing mercantile interests.

- 5 Note that in certain embodiments, the background of region **5300** and/or **5360** may include motion video. In certain embodiments, specific components of region **5300** and/or **5360** may include motion video.

Figure **17** depicts a displayed user output stream on a user video screen **5000** indicating an advertising region **5370**, in accordance with certain
10 embodiments.

Advertising region **5370** includes an advertisement **5372**, motion video advertising region **5374**, logo **5376** as well as a Cancel region **5380** and an Enroll region **5382**. The find out more region **5372** represents a portion of a touch sensitive membrane covering the user video screen upon which the
15 user may touch the display to have the financial access vending machine computer register a response. Note that advertising region **5370** may include any combination of some or all of these components, and multiple instances of certain of these components. These components often include copyrighted and trademarked material of the mercantile interests paying fees for the
20 privilege of being seen on the user view screen to the financial access vending machine owner or franchise owner. In certain embodiments, there may be more than one advertising region **5370** representing differing mercantile interests.

Note that in certain embodiments, the background of region **5370** may include
25 motion video. In certain embodiments, multiple specific components of **5370** may include motion video.

Figure **18** depicts a displayed user output stream on a user video screen **5000** indicating a transaction region **5400** and an advertising region **5410**, in accordance with certain embodiments.

Transaction region **5400** comprises a selection list of financial access mechanisms and mercantile transactions including Checking **5430**, Saving **5432**, MMA/MRA **5434**, Credit Card **5436**, Credit Line **5438**, Investment **5440** and Other **5442**. There is an Amount button region **5450**, which activates a pull down selection menu. There is a Back region **5424** and OK region **5422** of the transaction region **5400**. Each of the selection list regions and the Back region and OK region represents a portion of a touch sensitive membrane covering the user video screen upon which the user may touch the display to have the financial access vending machine computer register a response.

Advertising region **5410** includes an advertising message and logo. Note that advertising region **5410** may include any combination of some or all of these components, and multiple instances of certain of these components. These components often include copyrighted and trademarked material of the mercantile interests paying fees, for the privilege of being seen on the user view screen, to the financial access vending machine owner or franchise owner. In certain embodiments, there may be more than one advertising region **5410** representing differing mercantile interests.

Note that in certain embodiments, the background of region **5400** and/or **5410** may include motion video. In certain embodiments, specific components of region **5400** and/or **5410** may include motion video.

Figure **19** depicts a displayed user output stream on a user video screen **5000** indicating a transaction status region **5412** and an advertising region **5410** presenting a mercantile offer to contract, in accordance with certain embodiments.

Advertising region **5410** includes an advertising motion video region **5430** including an advertising message, logo **5432** and a user acceptance region **5420**. Note that advertising region **5410** may include any combination of some or all of these components, and multiple instances of certain of these components. These components often include copyrighted and trademarked material of the mercantile interests paying fees for the privilege of being seen

on the user view screen to the financial access vending machine owner or franchise owner. In certain embodiments, there may be more than one advertising region **5410** representing differing mercantile interests.

5 Note that in certain embodiments, the background of region **5412** and/or **5410** may include motion video. In certain embodiments, specific components of region **5412** and/or **5410** may include motion video.

Figure **20** depicts a displayed user output stream on a user video screen **5000** indicating a transaction status region **5512** and an advertising region **5510** showing acknowledgement of the user acceptance of a mercantile offer to
10 contract creating a contract, in accordance with certain embodiments.

Advertising region **5510** includes an advertising motion video region **5530** including a message acknowledging the user acceptance of the mercantile offer to contract and logo **5532**. This is the point in the interaction in which a contract has been completed. There has been a meeting of minds which
15 reasonably constitutes a commitment between the parties, namely the user as identified by the financial access vending machine and the merchant making the offer as shown in Figure **59**. The user signals acceptance by pushing the region **5420** of Figure **59**. This screen indicates that the merchant is acknowledging the contract offer and acceptance as shown in Figure **59**.

20 Note that in certain embodiments, payment for the offer is performed within a short time, with funds from the financial access mechanism being taken from the identified user's account being transferred to the merchant access mechanism.

In certain other embodiments, a multiple step approach is taken: Funds are
25 first removed by the financial access mechanism from the identified user account and placed in a temporary holding account. At a later time, a block transaction transfers the holding account funds to the merchant in payment for the collection of identified user commitments contributing to that holding account. This can be particularly advantageous for situations involving a

large number of relatively small cash transactions, such as tickets for sporting or entertainment events.

In certain other embodiments, funds are held in the identified user account until delivery or pickup of the product or service. This is advantageous in cases of placing takeout orders or delivery orders. If the goods or services are not of adequate quality or are delivered later than specified, the identified user has recourse in terms of payment. If the identified user never picks up the goods or services, or is not available at the delivery point to receive the goods or services, the merchant has recourse to receive compensation for good faith efforts.

Note that advertising region **5510** may include any combination of some or all of these components, and multiple instances of certain of these components. These components often include copyrighted and trademarked material of the mercantile interests paying fees for the privilege of being seen on the user view screen to the financial access vending machine owner or franchise owner. In certain embodiments, there may be more than one advertising region **5510** representing differing mercantile interests.

Note that in certain embodiments, the background of region **5512** and/or **5510** may include motion video. In certain embodiments, specific components of region **5512** and/or **5510** may include motion video.

Figure **21** depicts a displayed user output stream on a user video screen **5000** indicating a transaction region **5800**, in accordance with certain embodiments.

Transaction region **5800** comprises a selection list of financial access mechanisms and mercantile transactions including Checking **5830**, Saving **5832**, MMA/MRA **5834**, Credit Card **5836**, Credit Line **5838**, Investment **5840** and Other **5842**. The MMA/MRA region **5834** and Credit Line region **5836** are highlighted in comparison to the other regions just mentioned. Such highlighting may be applied to various regions to indicate availability of the activity associated with the region in certain embodiments.

Transaction region **5800** further comprises an Amount button region **5850**, which when touched, activates a pull down selection menu. Transaction region **5800** further comprises a Back region **5834** and OK region **5822**. Each of the selection list regions and the Back region and OK region represents a portion of a touch sensitive membrane covering the user video screen upon which the user may touch the display to have the financial access vending machine computer register a response.

Note that in certain embodiments, the background of region **5800** may include motion video. In certain embodiments, specific components of region **5800** may include motion video.

Figure **22** depicts a displayed user output stream on a user video screen **5000** indicating a transaction region **5900**, in accordance with certain embodiments.

Transaction region **5900** comprises a selection list of financial access transaction amounts including \$20 **5920**, \$40 **5922**, \$60 **5924**, \$80 **5926**, \$100 **5928**, \$200 **5930** and Other **5932**. Transaction region **5900** further comprises a Back region **5934** and OK region **5932**. Transaction region **5900** further comprises a financial transaction selection pull down menu region **5910** indicating the current financial transaction (Checking). Each of the selection list regions, financial transaction selection pull down menu region **5910**, the Back region and OK region represent a portion of a touch sensitive membrane covering the user video screen upon which the user may touch the display to have the financial access vending machine computer register a response.

Figure **23** depicts a displayed user output stream on a user video screen **5000** indicating a transaction region **6000**, in accordance with certain embodiments.

Transaction region **6000** comprises a financial access transaction amounts pull down menu region **6020** indicating a current amount (\$80). Transaction region **6000** further comprises a Back region **6034** and OK region **6032**. Transaction region **6000** further comprises a financial transaction selection

pull down menu region **6010** indicating the current financial transaction (Checking). Each of financial access transaction amounts pull down menu region **6020**, financial transaction selection pull down menu region **6010**, the Back region and OK region represent a portion of a touch sensitive membrane
5 covering the user video screen upon which the user may touch the display to have the financial access vending machine computer register a response.

Note that in certain embodiments, the background of region **6000** may include motion video. In certain embodiments, specific components of region **6000** may include motion video.

10 Figure **24** depicts a displayed user output stream on a user video screen **5000** indicating a transaction region **6100**, in accordance with certain embodiments.

Transaction region **6100** comprises a financial access transaction amount entry region **6112** indicating an amount that the user enters through a keypad **6110**. Transaction region **6100** further comprises a Back region **6134** and OK
15 region **6132**. Transaction region **6100** further comprises a financial transaction selection pull down menu region **6120** indicating the current financial transaction (Savings). Each of financial transaction selection pull down menu region **6120**, the Back region and OK region represent a portion of a touch sensitive membrane covering the user video screen upon which the user may
20 touch the display to have the financial access vending machine computer register a response.

Note that in certain embodiments, the background of region **6100** may include motion video. In certain embodiments, specific components of region **6100** may include motion video.

25 Figure **25** depicts a displayed user output stream on a user video screen **5000** indicating a displayed map **6200**, in accordance with certain embodiments.

In certain embodiments, displayed map **6200** is a default map **1476** of Figure **50** showing the location of the financial access vending machine **6210**. In certain further embodiments, locations of various categories of commonly

requested services, products and points of interest are further denoted. Displayed maps include legend regions **6230** in certain further embodiments. In certain other further embodiments, specific mercantile interests are denoted **6220**, **6224** (respectively) and described **6234** and **6236** (respectively). Note
5 that in certain embodiments, specific mercantile interests are denoted and/or described based upon an advertising contract between the owner of the financial access vending machine and those mercantile interests.

In certain embodiments, local user access profile collection includes a locale topographical database **1470**, which is used to generate displayed map **6200**
10 and, in certain further embodiments, location legend **6230**. In certain further embodiments, local user access profile collection includes a locale topographical database **1470** and local merchant collection **1480**, which is used to generate displayed map **6200** and, in certain further embodiments, location legend **6230**.

15 Locale topographical database **1470** is used to create a travel description **6222**, in certain further embodiments. Locale topographical database **1470** and local merchant entry **1486** of local merchant collection **1480** are used to create a travel description **6224**, in certain further embodiments.

Note that in certain embodiments, the background of region **5000** may include
20 motion video. In certain embodiments, specific components of region **5000** may include motion video.

Figure **26** depicts a collection of object families contained in a program operating system residing in accessibly coupled computer memory of at least one computer in a computer system **1000** controlling a financial access
25 vending machine in accordance with certain embodiments.

In certain embodiments, program code segments, within core service object family **7000**, are responsible for managing the health of the financial access vending machine from both the device and application services perspectives. Program code segments within core service object family **7000** support

providing a consistent framework from which systems health of the financial access vending machine can be determined. In certain embodiments, program code segments within core service object family **7000** support monitoring both devices and application services. In certain embodiments, program code segments within core service object family **7000** support detecting problems at both the system and application layers. In certain embodiments, program code segments within core service object family **7000** support providing a reliable reporting mechanism. In certain embodiments, program code segments within core service object family **7000** support providing sufficient security in case things do go wrong, or in other words, minimize risk of financial loss and system security.

Communication between core service object family **7000** and ATM director object family **7100** is depicted by arrow **7010**.

In certain embodiments, program code segments within ATM director object family **7100** manage the financial access vending machine. It controls all the other object families shown in this diagram. In certain further embodiments, program code segments within ATM director object family **7100** support flexible interface for any product to be deployed on it. In certain further embodiments, program code segments within ATM director object family **7100** support a central point of communication between all the object families shown in this diagram. In certain further embodiments, program code segments within ATM director object family **7100** support implementation of different business rules regarding advertising and financial access interactions with merchant access mechanisms for contracting.

Communication between ATM director object family **7100** and local user access profile collection object family **7300** is depicted by arrow **7130**.

In certain embodiments, program code segments within local user access profile collection object family **7300** maintain the local user access profile collection of the financial access vending machine. In certain further embodiments, program code segments within local user access profile

collection object family **7300** maintain the local user access profile collection including a default map of the financial access vending machine. In certain embodiments, program code segments within local user access profile collection object family **7300** maintain the local user access profile collection
5 including motion video sequences of the financial access vending machine. In certain embodiments, program code segments within local user access profile collection object family **7300** maintain the local user access profile collection including advertising information of the financial access vending machine. In certain embodiments, program code segments within local user access profile
10 collection object family **7300** maintain the local user access profile collection including a local merchant collection of merchant entries of the financial access vending machine.

Communication between ATM director object family **7100** and device management object family **7400** is depicted by arrow **7140**.

15 Communication between core service object family **7000** and device management object family **7400** is depicted by arrow **7040**.

In certain embodiments, program code segments within device management object family **7400** show the interactions with supporting frameworks and the vendor specific interfaces that allow device control. In certain embodiments,
20 program code segments within device management object family **7400** support multiple vendor-made devices within the financial access vending machine, such as video display interface PC cards, dispenser interfaces, printers and other such devices. In certain embodiments, program code segments within device management object family **7400** support state
25 management to support simultaneous device operations.

Communication between ATM director object family **7100** and financial object family **7200** is depicted by arrow **7140**.

Communication between core service object family **7000** and financial object family **7200** is depicted by arrow **7040**.

In certain embodiments, program code segments within financial object family **7200** support communication and transactions with financial access mechanisms. In certain further embodiments, program code segments within financial object family **7200** support use of Nonstop-Tuxedo, and Nonstop-
5 TS/MP (Transaction Services Massively Parallel) as the middlewares to support the various transactions.

In certain further embodiments, program code segments within financial object family **7200** support secure transactions and maintenance of transactional integrity. In certain further embodiments, program code
10 segments within financial object family **7200** support the ability to do acquired transactions. In certain further embodiments, program code segments within financial object family **7200** support the capability of authorizing a financial access mechanism customer's PIN and access card. In certain further
15 embodiments, program code segments within financial object family **7200** support the ability to do acquired transactions.

In certain further embodiments, program code segments within financial object family **7200** support the ability to do financial transactions (like Withdrawal, Balance Inquiry, Transfer, etc.). In certain further embodiments,
20 program code segments within financial object family **7200** support the ability to log transactions to a vending system server, and to the log on the financial access vending machine. In certain further embodiments, the log is maintained by program code segments of the core services object family
7000.

In certain further embodiments, program code segments within financial
25 object family **7200** support the ability of creating settlement records for all the financial access vending machine computers.

In certain further embodiments, program code segments within financial object family **7200** support the ability to maintain transaction integrity following a system or component failure. These failures may include software crashes,
30 database failures, and hardware failures such as financial access vending

machine cash dispenser jam incidents. In certain further embodiments, program code segments within financial object family **7200** support maintaining consistency and accuracy between financial access vending machine results and the banks financial data stores.

- 5 In certain further embodiments, program code segments within financial object family **7200** support the ability to systematically balance the amount of cash, stamps, and various other items that can be dispensed from the dispensers.

- 10 In certain further embodiments, program code segments within financial object family **7200** support the ability to send a transaction to another node for various services provided within the financial framework, when the financial access vending machine communication with the financial access mechanism is impaired. In certain further embodiments, program code segments within financial object family **7200** support the ability to do business resumption.

- 15 In certain further embodiments, program code segments within financial object family **7200** support the ability to do multiple transactions and form transaction sets of the various transactions. In certain further embodiments, program code segments within financial object family **7200** support the ability to provide an easy-to-use interface for doing various system management and
20 administration functions.

- Figure **27** depicts a simplified system level diagram of the various communicative couplings of financial access vending machines **1000** and financial access mechanisms **8100** including financial access mechanism servers **8110**, merchant access mechanisms **8200**, vending system servers
25 **8000**, and other entities in accordance with certain embodiments.

Each financial access vending machine **1000** communicatively couples **8002** to a communication network **8004** and also communicatively coupled **8006** to vending system server **8000**, in certain embodiments. Each financial access vending machine **1000** communicatively couples **8112** to a financial access

mechanism server **8110** via couplings **8002** to **8004** to **8006** to **8114** and to financial access mechanism server **8110**, in certain further embodiments. Each financial access vending machine **1000** communicatively couples **8202** to merchant access mechanism **8200** via couplings **8002** to **8004** to **8006** to **8230** and to merchant access mechanism **8200**, in certain further
5 embodiments.

Each financial access vending machine **1000** communicatively couples **8102** to a financial access mechanism **8100**, in certain embodiments. Each financial access vending machine **1000** communicatively couples **8112** to financial
10 access mechanism server **8110**, in certain embodiments. Each financial access vending machine **1000** communicatively couples **8202** to merchant access mechanism **8200**, in certain embodiments.

Vending system server **8000** communicatively couples **8302** to web server **8300**, in certain embodiments. Users **8310** communicatively couple **8312** via
15 network **8320** which is further coupled **8304** to web server **8300**, in certain embodiments. Web server **8300** maintains **8332** a web site **8330**, in certain further embodiments.

In certain further embodiments, users **8310** access (**8312** to **8320** to **8304** through web server **8300** maintaining **8332**) web site **8330** to modify their user
20 profile in the user profile collection **8020** maintained with vending system server **8000** via coupling **8302**.

In certain further embodiments, users **8310** access (**8312** to **8320** to **8304** through web server **8300** maintaining **8332**) web site **8330** transacting
25 business, which modifies their user profile in the user profile collection **8020** maintained with vending system server **8000** via coupling **8302**.

In certain embodiments, secure command and control client **8300** interacts **8302** with vending system server **8000**. In certain further embodiments, secure command and control client **8300** interacts **8302** with vending system server **8000** to direct the maintenance of locale ID collection **8010**. In certain

further embodiments, the financial access vending machines **1000** with local user access profile collections **1410** each access (**8002** to **8004** to **8006**) to update their local user access profile collections **1410** based upon the collection of local user access profile collections **8010**.

5 In certain further embodiments, secure command and control client **8300** interacts **8302** with vending system server **8000** to direct the maintenance of user profile collection **8020**. In certain further embodiments, the financial access vending machines **1000** with local user access profile collections **1410** each access (**8002** to **8004** to **8006**) to update their local user access profile
10 collections **1410** based upon the user profile collection **8020**.

In certain other further embodiments, secure command and control client **8300** interacts **8302** with vending system server **8000** to direct the maintenance of user profile collection **8020**. In certain further embodiments, the financial access vending machines **1000** with local user access profile
15 collections **1410** each access (**8002** to **8004** to **8006**) to update their local user access profile collections **1410** based upon the user profile collection **8020**.

As used herein networks refer to communications systems comprised of at least one physical transport layer and supporting at least one messaging
20 protocol. Note that the messaging protocol in most circumstances is transparent to the users. The physical transport layer includes but is not limited to wireless and wireline physical transport layers.

Figure **28** depicts a simplified block diagram of a computer system **1000** to control a financial access vending machine supporting a local user access
25 profile collection in accordance with certain embodiments.

Computer system **1000** comprises a computer **1100** accessibly coupled **1102** to computer memory **1200**. As used herein a computer system comprises at least one computer accessibly coupled to a computer memory. In certain embodiments, computer system **1000** comprises at least two computers, each

with separate accessibly coupled computer memories. In certain embodiments, computer system **1000** comprises at least two computers, each sharing an accessibly coupled computer memory.

Computer system **1000** further comprises a user identifying interface subsystem **1300** communicatively coupled **1106** with computer **1100**. User identifying subsystem **1300** includes at least one mechanism presenting a user stimulus output stream to a user and at least one mechanism stimulated by a user to generate a user stimulus input stream. Embodiments of this subsystem will be discussed in greater detail later. User identifying interface subsystem **1300** can gather information sufficient to adequately identify the user for purposes of transacting financial and mercantile exchanges and agreements. In certain further embodiments, user identifying interface subsystem **1300** further provides the user with mercantile offers, selection capability for financial and mercantile transactions and presentation of graphical data including at least one of the collection of presentation maps and motion video.

Computer system **1000** further comprises local user access profile collection **1410** communicatively coupled **1140** with computer **1100**. In certain embodiments, local user access profile collection **1410** contains an encapsulated system component coupled by an internal communication transport layer **1140** to computer **1100**. Such an internal communication transport layer **1140** may be wireline in certain further embodiments. In certain further embodiments, the wireline transport layer **1140** includes an optical fiber, coaxial cable, twisted pair, ribbon cable, or buss strips on a printed circuit board. In certain further embodiments, local user access profile collection **1410** encapsulated system component further contains nonvolatile memory. In certain further embodiments, local identification **1410** encapsulated system component contains writable nonvolatile memory. In certain further embodiments, at least a part of the nonvolatile memory of local user access profile collection **1410** encapsulated system component is organized and accessed as a file management system. In certain other further

embodiments, local user access profile collection **1410** encapsulated system component contains write-once nonvolatile memory.

In certain embodiments, local user access profile collection **1410** resides in part of computer memory **1200**. In certain further embodiments, local
5 identification **1410** resides in a portion of at least one nonvolatile memory component of computer memory **1200**. In certain further embodiments, local user access profile collection **1410** is organized and accessed **1140** as a file management system.

In certain embodiments, communicative coupling **1140** between local
10 identification **1410** and computer **1100** employs coding technology. In certain further embodiments, communicative coupling **1140** employs distinct coding technologies depending upon whether the computer **1100** is performing reading or writing access of local user access profile collection **1410**. Coding technology as used herein will refer to error detection codes, error detection
15 and correction codes, encryption codes and combinations of these coding technologies.

The financial access vending machine is controlled by the computer system **1000** executing a program operating system of program code segments residing in the accessibly coupled computer memory of at least one of the
20 computers of the computer system.

In certain embodiments, local user access profile collection **1410** contains **1412** local access profile node **1420**.

In certain further embodiments, local access profile node **1420** contains **1432** a textual presentation content **1430**.

25 In certain other further embodiments, local access profile node **1420** contains **1442** a graphical presentation content **1440**.

In certain further embodiments, local access profile node **1420** contains **1432** graphical presentation content **1440**, which in turn contains **1452** motion video content presentation **1450**.

5 In certain further embodiments, local access profile node **1420** contains **1462** a synchronized audio sequence **1460**. In certain embodiments, the synchronization of the synchronized audio sequence **1460** is based upon local access profile node **1420**. In certain further embodiments, the synchronization of the synchronized audio sequence **1460** is based upon graphical presentation content **1440** as a whole. In certain further embodiments, the
10 synchronization of the synchronized audio sequence **1460** is based upon motion video content presentation **1450**. In certain other embodiments, the synchronization of the synchronized audio sequence **1460** is based upon textual presentation content **1430**.

15 In certain further embodiments, local access profile node **1420** contains more than one synchronized audio sequence.

In certain further embodiments, local access profile node **1420** contains **1432** graphical presentation content **1440**, containing more than one motion video content presentation.

20 In certain embodiments local access profile node **1420** contains more than one graphical presentation content.

In certain other further embodiments, local user access profile collection **1410** contains **1414** a second local access profile node **1422**. Additionally, local access profile node **1420** contains **1472** a link **1470** referencing **1474** the second local access profile node **1422**. In certain further embodiments, local
25 user access profile collection **1410** contains a third local access profile node, and local access profile node **1420** contains a second link, referencing the third local access profile node. In certain further embodiments, a local access profile node may contain more than two links referencing other local access profile nodes, which may or may not all be distinct local access profile nodes.

Figure 28 depicts a simplified block diagram of computer system 1000 further containing a locale identification 1400 communicatively coupled 1104 to computer 1100 in accordance with certain further embodiments.

As discussed in Figure 4, computer system 1000 comprises a computer 1100
5 accessibly coupled 1102 to computer memory 1200. As used herein a computer system comprises at least one computer accessibly coupled to a computer memory. In certain embodiments, computer system 1000 comprises at least two computers, each with separate accessibly coupled computer memories. In certain embodiments, computer system 1000 comprises at
10 least two computers, each sharing an accessibly coupled computer memory.

As discussed in Figure 4, computer system 1000 further comprises a user identifying interface subsystem 1300 communicatively coupled 1106 with computer 1100. User identifying subsystem 1300 includes at least one mechanism presenting a user stimulus output stream to a user and at least
15 one mechanism by which computer system 1000 may be stimulated by a user to generate a user stimulus input stream. Embodiments of this subsystem will be discussed in greater detail later. User identifying interface subsystem 1300 can gather information sufficient to adequately identify the user for purposes of transacting financial and mercantile exchanges and agreements. In certain
20 further embodiments, user identifying interface subsystem 1300 further provides the user with mercantile offers, selection capability for financial and mercantile transactions and presentation of graphical data including at least one of the collection of presentation of maps and motion video.

Unlike Figure 4, computer system 1000 further comprises locale identification
25 1400 communicatively coupled 1104 with computer 1100. In certain embodiments, locale identification 1400 contains an encapsulated system component coupled by an internal communication transport layer 1104 to computer 1100. Such an internal communication transport layer 1104 may be wireline in certain further embodiments. In certain further embodiments, the
30 wireline transport layer 1104 includes an optical fiber, coaxial cable, twisted

pair, ribbon cable, or buss strips on a printed circuit board. In certain further embodiments, locale identification **1400** encapsulated system component further contains nonvolatile memory. In certain further embodiments, local identification **1400** encapsulated system component contains writable nonvolatile memory. In certain further embodiments, at least a part of the nonvolatile memory of locale identification **1400** encapsulated system component is organized and accessed as a file management system. In certain other further embodiments, locale identification **1400** encapsulated system component contains write-once nonvolatile memory.

10 In certain embodiments, locale identification **1400** resides in part of computer memory **1200**. In certain further embodiments, local identification **1400** resides in a portion of at least one nonvolatile memory component of computer memory **1200**. In certain further embodiments, locale identification **1400** is organized and accessed **1104** as a file management system.

15 In certain embodiments, communicative coupling **1104** between local identification **1400** and computer **1100** employs coding technology. Coding technology as used herein will refer to error detection codes, error detection and correction codes, encryption codes and combinations of these coding technologies. In certain further embodiments, communicative coupling **1104** employs distinct coding technologies depending upon whether the computer **1100** is performing reading access or writing access of locale identification **1400**.

Figure **29** depicts a simplified block diagram of computer system **1000** further containing a dispenser subsystem interface **1500** communicatively coupled **1108** to computer **1100** in accordance with certain further embodiments.

As discussed in Figure **4** and **28**, computer system **1000** comprises a computer **1100** accessibly coupled **1102** to computer memory **1200**. As used herein a computer system comprises at least one computer accessibly coupled to a computer memory. In certain embodiments, computer system **1000** comprises at least two computers, each with separate accessibly

coupled computer memories. In certain embodiments, computer system **1000** comprises at least two computers, each sharing an accessibly coupled computer memory.

As discussed in Figure **4** and **28**, computer system **1000** further comprises a user identifying interface subsystem **1300** communicatively coupled **1106** with computer **1100**. User identifying subsystem **1300** includes at least one mechanism presenting a user stimulus output stream to a user and at least one mechanism by which computer system **1000** may be stimulated by a user to generate a user stimulus input stream. Embodiments of this subsystem will be discussed in greater detail later. User identifying interface subsystem **1300** can gather information sufficient to adequately identify the user for purposes of transacting financial and mercantile exchanges and agreements. In certain further embodiments, user identifying interface subsystem **1300** further provides the user with mercantile offers, selection capability for financial and mercantile transactions and presentation of graphical data including at least one of the collection of presentation of maps and motion video.

As discussed in Figure **28**, computer system **1000** further comprises locale identification **1400** communicatively coupled **1104** with computer **1100**. In certain embodiments, locale identification **1400** contains an encapsulated system component coupled by an internal communication transport layer **1104** to computer **1100**. Such an internal communication transport layer **1104** may be wireline in certain further embodiments. In certain further embodiments, the wireline transport layer **1104** includes an optical fiber, coaxial cable, twisted pair, ribbon cable, or buss strips on a printed circuit board. In certain further embodiments, locale identification **1400** encapsulated system component further contains nonvolatile memory. In certain further embodiments, local identification **1400** encapsulated system component contains writable nonvolatile memory. In certain further embodiments, at least a part of the nonvolatile memory of locale identification **1400** encapsulated system component is organized and accessed as a file management system. In certain other further embodiments, locale

identification **1400** encapsulated system component contains write-once nonvolatile memory.

As discussed in Figure 4, in certain embodiments, locale identification **1400** resides in part of computer memory **1200**. In certain further embodiments,
5 local identification **1400** resides in a portion of at least one nonvolatile memory component of computer memory **1200**. In certain further embodiments, locale identification **1400** is organized and accessed **1104** as a file management system.

As discussed in Figure 28, in certain embodiments, communicative coupling
10 **1104** between local identification **1400** and computer **1100** employs coding technology. Coding technology as used herein will refer to error detection codes, error detection and correction codes, encryption codes and combinations of these coding technologies. In certain further embodiments, communicative coupling **1104** employs distinct coding technologies
15 depending upon whether the computer **1100** is performing reading access or writing access of locale identification **1400**.

Not previously shown or discussed in Figure 4 or 28, but shown in Figure 5, computer system **1000** further comprises dispenser subsystem interface **1500** communicatively coupled with an internal communication transport layer **1108**
20 with computer **1100**. Such an internal communication transport layer **1108** may be wireline in certain further embodiments. In certain further embodiments, the wireline transport layer **1108** includes an optical fiber, coaxial cable, twisted pair, ribbon cable, or buss strips on a printed circuit board.

25 As shown in Figure 5, in certain embodiments, communicative coupling **1108** between dispenser subsystem interface **1500** and computer **1100** employs coding technology. In certain further embodiments, communicative coupling **1108** employs distinct coding technologies depending upon whether the computer **1100** is performing input or output access of dispenser subsystem
30 interface **1500**. Coding technology as used herein will refer to at least error

detection codes, error detection and correction codes, encryption codes and combinations of these coding technologies.

Figure 30 depicts locale identification **1400** including a local user access profile collection **1410** in accordance with certain embodiments.

- 5 *In certain embodiments, locale identification **1400** includes **1402** local user access profile collection **1410** which in turn contains **1412** local access profile node **1420**.*

*In certain further embodiments, local access profile node **1420** contains **1432** a textual presentation content **1430**.*

- 10 *In certain other further embodiments, local access profile node **1420** contains **1442** a graphical presentation content **1440**.*

*In certain further embodiments, local access profile node **1420** contains **1432** graphical presentation content **1440**, which in turn contains **1452** motion video content presentation **1450**.*

- 15 *In certain further embodiments, local access profile node **1420** contains **1462** a synchronized audio sequence **1460**. In certain embodiments, the synchronization of the synchronized audio sequence **1460** is based upon local access profile node **1420**. In certain further embodiments, the synchronization of the synchronized audio sequence **1460** is based upon graphical*
20 *presentation content **1440** as a whole. In certain further embodiments, the synchronization of the synchronized audio sequence **1460** is based upon motion video content presentation **1450**. In certain other embodiments, the synchronization of the synchronized audio sequence **1460** is based upon textual presentation content **1430**.*

- 25 *In certain further embodiments, local access profile node **1420** contains more than one synchronized audio sequence.*

In certain further embodiments, local access profile node **1420** contains **1432** graphical presentation content **1440**, containing more than one motion video content presentation.

5 In certain embodiments local access profile node **1420** contains more than one graphical presentation content.

In certain other further embodiments, local user access profile collection **1410** contains **1414** a second local access profile node **1422**. Additionally, local access profile node **1420** contains **1472** a link **1470** referencing **1474** the second local access profile node **1422**. In certain further embodiments, local
10 user access profile collection **1410** contains a third local access profile node, and local access profile node **1420** contains a second link, referencing the third local access profile node. In certain further embodiments, a local access profile node may contain more than two links referencing other local access profile nodes, which may or may not all be distinct local access profile nodes.

15 **Figure 31** depicts a presentation node collection **1600** comprising **1602** presentation reference **1610** associated **1612** with local access profile node **1420** of **1412** local user access profile collection **1410** included **1402** in locale identification **1400**, in accordance with certain embodiments.

Note that in certain embodiments, presentation node collection **1600** may
20 comprise more than one presentation reference. In certain embodiments, the default presentation node collection may contain a default presentation reference associated with an initial local access profile node. The initial local access profile node may contain a welcome textual message, graphical presentation content, motion video sequence and/or a synchronized audio
25 sequence which may repetitively be presented until user triggered stimulus is received in the user stimulus input stream.

In certain embodiments, presentation node collection **1600** is communicatively coupled **1610** to computer **1100** of computer system **1000**. Such coupling **1610** may be through residing in computer memory **1200**, in certain further

embodiments. Coupling **1610** can be effected as a communications link to a physically distinct unit, such as a PCMCIA card, or embedded processor subsystem, in certain embodiments. In certain further embodiments, coupling **1610** includes a physical transport layer. In certain further embodiments, coupling **1610** physical transport layer includes, but is not limited to, a wireline physical transport layer. Such wireline physical transport layers include but are not limited to electromagnetic and optical signaling physical transport mechanisms. In certain other further embodiments, coupling **1610** physical transport layer includes, but is not limited to, a wireless physical transport layer. Such wireless physical transport layers include but are not limited to electromagnetic field, microwave, infrared and optical wireless physical transport layers.

In certain further embodiments, presentation node collection **1600** acts as a list of presentation references. In certain other further embodiments, presentation node collection **1600** acts as a table of presentation references. In certain other further embodiments, presentation node collection **1600** acts as a file of presentation references accessed as through a file management system. In certain other further embodiments, presentation node collection **1600** acts as a collection of presentation program code segments. In certain further embodiments, presentation node collection **1600** acts as a collection of presentation program code segments in JAVA. In certain further embodiments, presentation node collection **1600** acts as a collection of presentation program code segments in HTML (Hyper Text Markup Language). In certain further embodiments, presentation node collection **1600** acts as a collection of presentation program code segments in VRML (Virtual Reality markup Language). In certain further embodiments, presentation node collection **1600** acts as a collection of presentation program code segments in ActiveX.

Figure **32** depicts a simplified system level diagram of the various communicative couplings of financial access vending machines **1000** and financial access mechanisms **8100** including financial access mechanism

servers **8110**, merchant access mechanisms **8200**, vending system servers **8000**, and other entities in accordance with certain embodiments.

Each financial access vending machine **1000** communicatively couples **8002** to a communication network **8004** and also communicatively coupled **8006** to vending system server **8000**, in certain embodiments. Each financial access vending machine **1000** communicatively couples **8112** to a financial access mechanism server **8110** via couplings **8002** to **8004** to **8006** to **8114** and to financial access mechanism server **8110**, in certain further embodiments. Each financial access vending machine **1000** communicatively couples **8202** to merchant access mechanism **8200** via couplings **8002** to **8004** to **8006** to **8230** and to merchant access mechanism **8200**, in certain further embodiments.

Each financial access vending machine **1000** communicatively couples **8102** to a financial access mechanism **8100**, in certain embodiments. Each financial access vending machine **1000** communicatively couples **8112** to financial access mechanism server **8110**, in certain embodiments. Each financial access vending machine **1000** communicatively couples **8202** to merchant access mechanism **8200**, in certain embodiments.

Vending system server **8000** communicatively couples **8302** to web server **8300**, in certain embodiments. Users **8310** communicatively couple **8312** via network **8320** which is further coupled **8304** to web server **8300**, in certain embodiments. Web server **8300** maintains **8332** a web site **8330**, in certain further embodiments.

In certain further embodiments, users **8310** access (**8312** to **8320** to **8304** through web server **8300** maintaining **8332**) web site **8330** to modify their user profile in the user profile collection **8020** maintained with vending system server **8000** via coupling **8302**.

In certain further embodiments, users **8310** access (**8312** to **8320** to **8304** through web server **8300** maintaining **8332**) web site **8330** transacting

business, which modifies their user profile in the user profile collection **8020** maintained with vending system server **8000** via coupling **8302**.

In certain embodiments, secure command and control client **8300** interacts **8302** with vending system server **8000**. In certain further embodiments, secure command and control client **8300** interacts **8302** with vending system server **8000** to direct the maintenance of locale ID collection **8010**. In certain further embodiments, the financial access vending machines **1000** with local user access profile collections **1410** each access (**8002** to **8004** to **8006**) to update their local user access profile collections **1410** based upon the collection of local user access profile collections **8010**.

In certain further embodiments, secure command and control client **8300** interacts **8302** with vending system server **8000** to direct the maintenance of user profile collection **8020**. In certain further embodiments, the financial access vending machines **1000** with local user access profile collections **1410** each access (**8002** to **8004** to **8006**) to update their local user access profile collections **1410** based upon the user profile collection **8020**.

In certain other further embodiments, secure command and control client **8300** interacts **8302** with vending system server **8000** to direct the maintenance of user profile collection **8020**. In certain further embodiments, the financial access vending machines **1000** with local user access profile collections **1410** each access (**8002** to **8004** to **8006**) to update their local user access profile collections **1410** based upon the user profile collection **8020**.

As used herein networks refer to communications systems comprised of at least one physical transport layer and supporting at least one messaging protocol. Note that the messaging protocol in most circumstances is transparent to the users. The physical transport layer includes but is not limited to wireless and wireline physical transport layers.

Figure 33 depicts another simplified system level diagram of the various communicative couplings of financial access vending machines 1000 and financial access mechanisms 8100 including financial access mechanism servers 8110, merchant access mechanisms 8200, financial access vending system servers 8000, and other entities in accordance with certain embodiments.

As in Figure 32, each financial access vending machine 1000 communicatively couples 8002 to a communication network 8004, also communicatively coupled 8006 to financial access vending system server 8000, in certain embodiments. Each financial access vending machine 1000 communicatively couples 8112 to a financial access mechanism server 8110 via couplings 8002 to 8004 to 8006 to 8114 to financial access mechanism server 8110, in certain further embodiments. Each financial access vending machine 1000 communicatively couples 8202 to merchant access mechanism 8200 via couplings 8002 to 8004 to 8006 to 8230 to 8200, in certain further embodiments.

As in Figure 32, each financial access vending machine 1000 communicatively couples 8102 to a financial access mechanism 8100, in certain embodiments. Each financial access vending machine 1000 communicatively couples 8112 to financial access mechanism server 8110, in certain embodiments. Each financial access vending machine 1000 communicatively couples 8202 to merchant access mechanism 8200, in certain embodiments.

As in Figure 32, financial access vending system server 8000 communicatively couples 8302 to web server 8300, in certain embodiments. Users 8310 communicatively couple 8312 via network 8320 further coupled 8304 to web server 8300, in certain embodiments. Web server 8300 maintains 8332 a web site 8330, in certain further embodiments.

As in Figure 32, in certain further embodiments, users 8310 access (8312 to 8320 to 8304 through web server 8300 maintaining 8332) web site 8330 to

modify their user profile in the user profile collection **8020** maintained with financial access vending system server **8000** via coupling **8302**.

As in Figure **32**, in certain further embodiments, users **8310** access (**8312** to **8320** to **8304** through web server **8300** maintaining **8332**) web site **8330**
5 transacting business, which modifies their user profile in the user profile collection **8020** maintained with financial access vending system server **8000** via coupling **8302**.

In certain embodiments, secure command and control client **8300** interacts **8302** with financial access vending system server **8000**. In certain further
10 embodiments, secure command and control client **8300** interacts **8302** with financial access vending system server **8000** to direct the maintenance of locale ID collection **8010**. In certain further embodiments, the financial access vending machines **1000** with locale identifications **1400** each access (**8002** to **8004** to **8006**) to update their locale identifications **1400** based upon the
15 locale ID collection **8010**.

As in Figure **32**, in certain further embodiments, secure command and control client **8300** interacts **8302** with financial access vending system server **8000** to direct the maintenance of user profile collection **8020**. In certain further
20 embodiments, the financial access vending machines **1000** with locale identifications **1400** with local user access profile collections **1410** each access (**8002** to **8004** to **8006**) to update their local user access profile collections **1410** based upon the user profile collection **8020**.

As in Figure **32**, in certain other further embodiments, secure command and control client **8300** interacts **8302** with financial access vending system server
25 **8000** to direct the maintenance of user profile collection **8020**. In certain further embodiments, the financial access vending machines **1000** with local user access profile collections **1410** each access (**8002** to **8004** to **8006**) to update their local user access profile collections **1410** based upon the user profile collection **8020**.

Figure **34A** depicts a detail object family diagram of core services object family **7000** as depicted in Figure **26**, in accordance with certain embodiments.

Configuration object family **7002** provides configuration management for the financial access vending machine computer system in certain embodiments. In certain further embodiments, configuration object family **7002** provides support for dynamic configuration changes. In certain further embodiments, configuration object family **7002** provides support dynamic configuration changes through content changes during the day.

In certain embodiments, configuration object family **7002** provides support building an initial local access user profile collection **1410** for a financial access vending machine computer system **1000**.

In certain embodiments, configuration object family **7002** provides support building a locale identification **1400** for a financial access vending machine computer system **1000**. In certain further embodiments, configuration object family **7002** provides support building a locale identification **1400** including an initial local access user profile collection **1410** for a financial access vending machine computer system **1000**.

In certain embodiments, configuration object family **7002** uses messaging based protocols for communication with vending system server **8000**. In certain further embodiments, configuration object family **7002** uses a messaging protocol compatible with TCP/IP. In certain further embodiments, configuration object family **7002** uses a messaging protocol compatible with XML.

In certain embodiments, configuration object family **7002** uses files compatible XML for storing configuration information. In certain further embodiments, configuration object family **7002** uses INI files for storing configuration information. In certain further embodiments, configuration object family **7002** uses CSV files for storing configuration information.

In certain embodiments, configuration object family **7002** uses Windows registry settings to store configuration information.

Event handling object family **7004** provides a consistent, flexible, and robust event handling and logging mechanism in certain embodiments. Event
5 handling object family **7004** provides the ability to handle custom defined logs to support auditing, tracing etc. in certain further embodiments.

In certain further embodiments, event handling object family **7004** provides the ability to collect events from different sources and distribute to multiple clients depending on client parameters. For example, multiple event readers
10 should be able to "listen" to an event stream.

In certain further embodiments, event handling object family **7004** provides a logging mechanism using an event handling mechanism by the resident real-time operating system of at least one computer **1100** of the financial access vending machine computer system **1000**. In certain further embodiments,
15 event handling object family **7004** provides a logging mechanism using the Windows NT event service.

Command and control object family **7006** provides the mechanism by which a remote operator sends commands to the financial access vending machine computer as well as retrieving information from the financial access vending
20 machine in certain embodiments. In certain further embodiments, command and control object family **7006** will support such implementations as "Sending an 'Up' command to the SST or sending a 'Load' command etc. In certain further embodiments, command and control object family **7006** is not concerned with "What" or "Why" commands are sent but rather providing the
25 mechanism to support any types of commands with proper deliver, feedback mechanism and security for instance.

In certain embodiments, command and control object family **7006** responds to commands embedded in a messaging protocol. In certain further embodiments, command and control object family **7006** responds to

commands embedded in a messaging protocol compatible with TCP/IP. In certain further embodiments, command and control object family **7006** responds to commands embedded in the SNMP protocol.

Figure **34B** depicts a detail diagram of Figures **26** and **34A** showing the device management object family **7400** and its primary interactions with other object families of Figures **26** and **34A**, in accordance with certain embodiments.

Arrow **7040-2** depicts communication between device management object family **7400** and configuration object family **7002** included in core services object family **7000**, in certain embodiments. The device management object family **7400** retrieves and sets configuration information by interfacing with the configuration object family **7002**, in certain further embodiments. Configuration information may include such things as device timeouts, settings, current device configuration specific to this ATM, etc. in certain further embodiments.

Arrow **7140** depicts communication between device management object family **7400** and ATM director object family **7100**, in certain embodiments. In certain embodiments, the main purpose of the device management object family **7400** is to interface with ATM director object family **7100**. In certain embodiments, requests for the various device accesses originate from the ATM director object family **7100**.

Arrow **7040-6** depicts communication between device management object family **7400** and command and control object family **7006** included in core services object family **7000**, in certain embodiments. In certain embodiments, the command and control object family **7006** is used to control any local applications such as running a diagnostic application or re-starting a device specific service that may have failed. In certain embodiments, there is a need to control the device management object family **7400** from an external application, for example a remote management console may issue a request to disable the card reader or dispenser.

Arrow **7412** depicts communication between device management object family **7400** and vendor specific interface **7410**, in certain embodiments. This communication includes actually invoking the vendor specific requests in certain further embodiments. This communication also includes handling
5 events from the devices, in certain further embodiments.

Arrow **7040-4** depicts communication between device management object family **7400** and event handling object family **7004** included in core services object family **7000**, in certain embodiments. Event handling object family **7004** is used to report events and/or listen for important device specific events, in
10 certain further embodiments.

Arrow **7422** depicts communication between vendor specific interface **7410** and device **7420**, in certain embodiments. The vendor specific interface(s) **7410** interacts **7422** with device(s) **7420**.

Arrow **7424** depicts communication between device **7420** and event handling
15 object family **7004** included in core services object family **7000**, in certain embodiments. Vendor provided devices **7420** report events **7424** to the provided event handling object family **7004**, in certain further embodiments. For example, device events are reported to the NT system log, in certain further embodiments.

Figure **35** depicts a mechanism of generating members of the collection of local user access profile collections **8030** and generating members of the user profile collection **8020** in accordance with certain embodiments.

Arrow **8032** depicts a data flow from profile generator **8400** via arrow **8402** which generates the local access profile nodes of one or more local user
25 access profile collections contained in the collection of local user access profile collections **8030**, in certain embodiments.

Arrow **8022** depicts a data flow from profile generator **8400** via arrow **8402** which generates a user profile associated with an identified user of user profile collection **8020**, in certain embodiments.

Arrow **8304** depicts the interaction of secure command and control client **8300** and profile generator **8400**, in certain embodiments. In certain further embodiments, secure command and control client **8300** examines the activities of profile generator **8400**. In certain further embodiments, secure
5 command and control client **8300** controls the activities of profile generator **8400**.

In certain further embodiments, secure command and control client **8300** directs profile generator **8400** to generate a local user access profile collection for a new financial access vending machine computer system **1000**. In certain
10 further embodiments, secure command and control client **8300** directs profile generator **8400** to generate a local user access profile collection for a new financial access vending machine computer system **1000** based upon an identified locale where the new financial access vending machine will be deployed.

15 In certain further embodiments, secure command and control client **8300** directs profile generator **8400** to update a local user access profile collection for a pre-existing financial access vending machine computer system **1000**. In certain further embodiments, secure command and control client **8300** directs profile generator **8400** to update the local user access profile collection for the
20 pre-existing financial access vending machine computer system **1000** based upon the new financial access vending machine identified locale. In certain further embodiments, secure command and control client **8300** directs profile generator **8400** to update the local user access profile collection for a new financial access vending machine computer system **1000** based upon the
25 identified locale and for a designated period of time.

In certain further embodiments, secure command and control client **8300** directs profile generator **8400** to create a user profile for a recently created, user identification. In certain further embodiments, secure command and control client **8300** directs profile generator **8400** to update a user profile for a
30 pre-existing user identification.

In certain further embodiments, secure command and control client **8300** directs profile generator **8400** to modify a user profile for a pre-existing user identification based upon the regulatory rule base **8760** within **8762** the filter database **8720** relevant to that identified user changing. In certain further
5 embodiments, secure command and control client **8300** directs profile generator **8400** to modify a user profile for a pre-existing user identification based upon the user advertising preferences **8740** within **8742** the filtering database **8720** of that identified user changing.

In certain embodiments, secure command and control client **8300** issues **8304**
10 a command list to profile generator **8400** to be performed on a timed basis. In certain further embodiments, secure command and control client **8300** issues **8304** a command list to profile generator **8400** to be performed on a regularly timed basis. In certain further embodiments, secure command and control client **8300** issues **8304** a command list to profile generator **8400** to be
15 performed on several distinct timed bases.

In certain embodiments, secure command and control client **8300** modifies **8304** a command list to profile generator **8400** to be performed on a timed basis. In certain further embodiments, secure command and control client **8300** modifies **8304** a command list to profile generator **8400** to be performed
20 on a regularly timed basis. In certain further embodiments, secure command and control client **8300** modifies **8304** a command list to profile generator **8400** to be performed on several distinct timed bases.

Arrow **8502** depicts a data flow sent to profile generator **8400** resulting from the application of filter hierarchy **8500** to **8602** transaction history database **8600**, in certain embodiments. In certain further embodiments, arrow **8502**
25 provides incremental data flow to profile generator **8400** resulting from the application of filter hierarchy **8500** to incremental data extracted **8602** from transaction history database **8600**.

In certain further embodiments, such incremental data may include but is not
30 limited to transactions restricted to a specific period of time. In certain further

embodiments, such incremental data may include but is not limited to transactions restricted to a specific region or collection of vending machine locales. In certain further embodiments, such incremental data may include but is not limited to transactions restricted to a specific collection of identified users. In certain further embodiments, such incremental data may include but is not limited to transactions restricted to a specific statistical cross section of identified users. In certain further embodiments, such incremental data may include but is not limited to transactions restricted to users of a specific vending machine locale. In certain further embodiments, such incremental data may include but is not limited to transactions restricted to users of a specific vending machine locale and a specific period of time.

In certain further embodiments, such incremental data may include but is not limited to transactions matching a collection of regulatory rules. In certain further embodiments, such incremental data may include but is not limited to transactions failing to match a collection of regulatory rules.

In certain further embodiments, arrow **8502** provides data to profile generator **8400** based upon filter hierarchy **8500** configured by secure command and control client **8300** directing **8506** filter database **8720**. In certain further embodiments, arrow **8502** provides data to profile generator **8400** based upon filter hierarchy **8500** configured by secure command and control client **8300** directing **8506** filter database **8720** to apply **8762** regulatory rules **8760** to transactions selected **8602** based upon locale of the vending machine system owner. In certain further embodiments, arrow **8502** provides data to profile generator **8400** based upon filter hierarchy **8500** configured by secure command and control client **8300** directing **8506** filter database **8720** to apply **8762** regulatory rules **8760** to transactions selected **8602** based upon locale of the transactions. In certain further embodiments, arrow **8502** provides data to profile generator **8400** based upon filter hierarchy **8500** configured by secure command and control client **8300** directing **8506** filter database **8720** to apply **8762** regulatory rules **8760** to transactions selected **8602** based upon locale of specific identified users. In certain further embodiments, arrow **8502**

provides data to profile generator **8400** based upon filter hierarchy **8500** configured by secure command and control client **8300** directing **8506** filter database **8720** to apply **8762** regulatory rules **8760** to transactions selected **8602** based upon locale of the vending machine for which a local access
5 profile node is to be constructed.

In certain embodiments, user advertising preferences **8740** are entered **8742** into filter database **8720**. In certain further embodiments, arrow **8742** supports communication in a messaging compatible protocol. In certain further embodiments, arrow **8742** supports communication in a messaging protocol
10 compatible with TCP-IP.

In certain further embodiments, user advertising preferences **8740** are entered **8742** into filter database **8720** through security filter **8744**. In certain further embodiments, security filter **8744** includes a firewall.

In certain further embodiments, the user advertising preferences **8740** are
15 associated with an identified user of financial access vending machines. In certain further embodiments, user advertising preferences **8740** may include but are not limited to selecting to belong to a group advertising preference. Such groups advertising interests include but are not limited to fan associations for a sporting team, performer, as well as for a kind of
20 entertainment, hobby, religious interest or political affiliation.

In certain further embodiments, the user advertising preferences **8740** are associated with a mercantile venture. In certain further embodiments, the mercantile venture advertising preferences **8740** may include but are not limited to the specification of advertising content. In certain further
25 embodiments, the advertising content may include but is not limited to trademarked content. In certain further embodiments, the advertising content may include but is not limited to textual content. In certain further embodiments, the advertising content may include but is not limited to graphical content. In certain further embodiments, the advertising content may
30 include but is not limited to motion video content. In certain further

embodiments, the advertising content may include but is not limited to synchronized audio content.

In certain further embodiments, the mercantile venture advertising preferences **8740** may include but are not limited to the specification of advertising content with targeting market directions. In certain further
5 embodiments, the targeting market directions include but are not limited to specification of a geographic region. In certain further embodiments, the targeting market directions include but are not limited to specification of a geographic region containing the locale of at least one financial access
10 vending machine. In certain further embodiments, the targeting market directions include but are not limited to specification of a geographic region as well as the specification of at least one time period.

In certain further embodiments, the mercantile venture advertising preferences **8740** may include but are not limited to the specification of
15 advertising content with targeting market directions including specification of group advertising preferences. In certain further embodiments, the targeting market directions include but are not limited to specification of group advertising preferences for a geographic region. In certain further
20 embodiments, the targeting market directions include but are not limited to specification of group advertising preferences for a geographic region containing the locale of at least one financial access vending machine. In certain further embodiments, the targeting market directions include but are not limited to specification of group advertising preferences for a geographic
25 region as well as the specification of at least one time period.

In certain further embodiments, the mercantile venture advertising preferences **8740** may include but are not limited to the specification of
30 advertising content with targeting market directions based upon user profile characteristics. In certain further embodiments, the targeting market directions include but are not limited to specification of a geographic region based upon user profile characteristics. In certain further embodiments, the targeting

market directions include but are not limited to specification of a geographic region containing the locale of at least one financial access vending machine based upon user profile characteristics. In certain further embodiments, the targeting market directions include but are not limited to specification of a geographic region as well as the specification of at least one time period
5 based upon user profile characteristics.

In certain embodiments, the user profile characteristics may include but not be limited to a collection including some or all of: gender, age, income level, financial access card type, credit rating from a financial access mechanism
10 and specified advertising interests.

In certain embodiments, regulatory rule base **8760** are entered **8762** into filter database **8720**. In certain further embodiments, arrow **8762** supports communication in a messaging compatible protocol. In certain further embodiments, arrow **8762** supports communication in a messaging protocol
15 compatible with TCP-IP.

In certain further embodiments, regulatory rule base **8760** are entered **8762** into filter database **8720** through security filter **8764**. In certain further embodiments, security filter **8764** includes a firewall.

In certain further embodiments, the regulatory rule base **8760** are associated
20 with an identified regulatory body with an identified geographical jurisdiction. In certain further embodiments, regulatory rule base **8760** may include but are not limited to selecting compliance for a group advertising preference. In certain further embodiments, regulatory rule base **8760** may include but are not limited to selecting non-compliance for a group advertising preference.
25 Such groups advertising interests include but are not limited to fan associations for a sporting team, performer, as well as for a kind of entertainment, hobby, religious interest or political affiliation.

In certain embodiments, regulatory rule base **8760** may include but are not limited to selecting compliance or non-compliance for a user profile

characteristic. In certain further embodiments, the user profile characteristics may include but not be limited to a collection including some or all of: gender, age, income level, financial access card type, credit rating from a financial access mechanism and specified advertising interests.

- 5 In certain further embodiments, regulatory rule base **8760** may include but are not limited to selecting compliance or non-compliance for a group advertising preference based upon one or more user profile characteristics. By way of example, it may be prohibited to advertise firearms when the user is under a specific age, or it may be prohibited to advertise certain drugs to people who
10 do not belong to populations deemed at risk for the condition treated by the drug.

- In certain embodiments, regulatory rule base **8760** may include but is not limited to specifying filters in the filter hierarchy **8500** removing certain kinds of information from being used to generate user profiles. In certain further
15 embodiments, a regulatory filter may be specified to limit knowledge of the specific contents of a financial transaction such as what was purchased. In certain further embodiments, a regulatory filter may be specified to limit knowledge received from a external database. In certain further embodiments, a regulatory filter may be specified to limit knowledge received from a external
20 database without specified authorization. In certain further embodiments, a regulatory filter may be specified to limit knowledge received from a external database with specified authorization.

- In certain embodiments, data from external database **8620** enters **8612** into transaction history database **8600**. In certain further embodiments, arrow
25 **8612** supports communication in a messaging compatible protocol. In certain further embodiments, arrow **8612** supports communication in a messaging protocol compatible with TCP-IP.

- In certain further embodiments, data from external database **8620** enters **8612** into transaction history database **8600** through security filter **8614**. In
30 certain further embodiments, security filter **8614** includes a firewall.

In certain embodiments, arrow **8614** depicts data in the form of parameterized summary reports of transactions found in external database **8620**.

In certain further embodiments, the external database **8620** is associated with an identified financial access mechanism. In certain further embodiments, the
5 external database **8620** is associated with an identified merchant access mechanism.

In certain embodiments, arrow **8602** depicts data in the form of parameterized summary reports of transactions found in transaction history database **8600**.
In certain embodiments, arrow **8602** depicts data in the form of parameterized
10 summary reports based upon the geographic region where transactions occurred as found in transaction history database **8600**. In certain embodiments, arrow **8602** depicts data in the form of parameterized summary reports based upon a geographic region of identified users involved in transactions found in transaction history database **8600**. In certain
15 embodiments, arrow **8602** depicts data in the form of parameterized summary reports based upon a geographic region of identified mercantile users involved in transactions found in transaction history database **8600**. In certain embodiments, arrow **8602** depicts data in the form of parameterized summary reports based upon a geographic region of identified financial access vending
20 machine users involved in transactions found in transaction history database **8600**. In certain embodiments, arrow **8602** depicts data in the form of parameterized summary reports based upon a financial access vending machine locale involved in transactions found in transaction history database **8600**.

25 In certain embodiments, profile generator **8400** produces profiles **8402** which are either local access profile nodes **8032** of one or more local user access profile collections **8030** or profiles **8022** of user profile collection **8020**. In certain further embodiments, profiles **8022** of user profile collection **8020** include but are not limited to user profiles for identified users of financial
30 access vending machines.

In certain further embodiments, profiles **8022** of user profile collection **8020** include but are not limited to profiles for merchants represented in at least one financial access vending machines. In certain further embodiments, profiles **8022** of user profile collection **8020** include but are not limited to profiles for
5 local merchants represented in at least one financial access vending machines.

In certain embodiments, merchant profiles **8022** of user profile collection **8020** include advertising content. In certain further embodiments, merchant profiles **8022** of user profile collection **8020** include textual advertising content. In
10 certain further embodiments, merchant profiles **8022** of user profile collection **8020** include graphical advertising content. In certain further embodiments, merchant profiles **8022** of user profile collection **8020** include motion video advertising content. In certain further embodiments, merchant profiles **8022** of user profile collection **8020** include synchronized audio advertising content.

15 In certain further embodiments, merchant profiles **8022** of user profile collection **8020** include contract offers for at least one of the identified users. In certain further embodiments, merchant profiles **8022** of user profile collection **8020** include contract offers for identified users whose user profile matches an offer template. In certain further embodiments, merchant profiles
20 **8022** of user profile collection **8020** include contract offers for identified users whose user profile does not match an offer-refusal template.

In certain embodiments, profiles **8402** generated by profile generator **8400** may include at least one program code segment. In certain further embodiments, profile program code segments **8402** may include but are not
25 limited to link references, which when the profile program code segment has been transmitted to the relevant financial access vending machine computer, become links or references to locally stored instantiations of the link reference. In certain further embodiments, the link reference may be locally instantiated as a program code segment. In certain further embodiments, the
30 link reference may be locally instantiated as textual. In certain further

embodiments, the link reference may be locally instantiated as graphical content. In certain further embodiments, the link reference may be locally instantiated as motion video content. In certain further embodiments, the link reference may be locally instantiated as synchronized audio content.

- 5 Figure 36 depicts a mechanism of generating members of the locale identification collection 8010 and generating members of the user profile collection 8020 in accordance with certain embodiments.

Arrow 8012 depicts a data flow from profile generator 8400 via arrow 8402 which generates the local access profile nodes of one or more local user
10 access profile collections included in locale identifications contained in the locale identification collection 8010, in certain embodiments.

As in Figure 35, arrow 8022 depicts a data flow from profile generator 8400 via arrow 8402 which generates a user profile associated with an identified user of user profile collection 8020, in certain embodiments.

- 15 As in Figure 35, arrow 8304 depicts the interaction of secure command and control client 8300 and profile generator 8400, in certain embodiments. In certain further embodiments, secure command and control client 8300 examines the activities of profile generator 8400. In certain further embodiments, secure command and control client 8300 controls the activities
20 of profile generator 8400.

In certain further embodiments, secure command and control client 8300 directs profile generator 8400 to generate a locale identification including local user access profile collection for a new financial access vending machine computer system 1000 based upon an identified locale where the new
25 financial access vending machine will be deployed.

In certain further embodiments, secure command and control client 8300 directs profile generator 8400 to update a locale identification including local user access profile collection for a pre-existing financial access vending machine computer system 1000. In certain further embodiments, secure

command and control client **8300** directs profile generator **8400** to update the locale identification including local user access profile collection for the pre-existing financial access vending machine computer system **1000** based upon the financial access vending machine identified locale. In certain further
5 embodiments, secure command and control client **8300** directs profile generator **8400** to update the locale identification including local user access profile collection for a pre-existing financial access vending machine computer system **1000** based upon the identified locale and for a designated period of time.

10 As in Figure **35**, in certain further embodiments, secure command and control client **8300** directs profile generator **8400** to create a user profile for a recently created, user identification. In certain further embodiments, secure command and control client **8300** directs profile generator **8400** to update a user profile for a pre-existing user identification.

15 As in Figure **35**, in certain further embodiments, secure command and control client **8300** directs profile generator **8400** to modify a user profile for a pre-existing user identification based upon the regulatory rule base **8760** within **8762** the filter database **8720** relevant to that identified user changing. In certain further embodiments, secure command and control client **8300** directs
20 profile generator **8400** to modify a user profile for a pre-existing user identification based upon the user advertising preferences **8740** within **8742** the filtering database **8720** of that identified user changing.

As in Figure **35**, in certain embodiments, secure command and control client **8300** issues **8304** a command list to profile generator **8400** to be performed
25 on a timed basis. In certain further embodiments, secure command and control client **8300** issues **8304** a command list to profile generator **8400** to be performed on a regularly timed basis. In certain further embodiments, secure command and control client **8300** issues **8304** a command list to profile generator **8400** to be performed on several distinct timed bases.

As in Figure 35, in certain embodiments, secure command and control client 8300 modifies 8304 a command list to profile generator 8400 to be performed on a timed basis. In certain further embodiments, secure command and control client 8300 modifies 8304 a command list to profile generator 8400 to be performed on a regularly timed basis. In certain further embodiments, secure command and control client 8300 modifies 8304 a command list to profile generator 8400 to be performed on several distinct timed bases.

As in Figure 35, arrow 8502 depicts a data flow sent to profile generator 8400 resulting from the application of filter hierarchy 8500 to 8602 transaction history database 8600, in certain embodiments. In certain further embodiments, arrow 8502 provides incremental data flow to profile generator 8400 resulting from the application of filter hierarchy 8500 to incremental data extracted 8602 from transaction history database 8600.

As in Figure 35, in certain further embodiments, such incremental data may include but is not limited to transactions restricted to a specific period of time. In certain further embodiments, such incremental data may include but is not limited to transactions restricted to a specific region or collection of vending machine locales. In certain further embodiments, such incremental data may include but is not limited to transactions restricted to a specific collection of identified users. In certain further embodiments, such incremental data may include but is not limited to transactions restricted to a specific statistical cross section of identified users. In certain further embodiments, such incremental data may include but is not limited to transactions restricted to users of a specific vending machine locale. In certain further embodiments, such incremental data may include but is not limited to transactions restricted to users of a specific vending machine locale and a specific period of time.

As in Figure 35, in certain further embodiments, such incremental data may include but is not limited to transactions matching a collection of regulatory rules. In certain further embodiments, such incremental data may include but is not limited to transactions failing to match a collection of regulatory rules.

As in Figure 35, in certain further embodiments, arrow 8502 provides data to profile generator 8400 based upon filter hierarchy 8500 configured by secure command and control client 8300 directing 8506 filter database 8720. In certain further embodiments, arrow 8502 provides data to profile generator 8400 based upon filter hierarchy 8500 configured by secure command and control client 8300 directing 8506 filter database 8720 to apply 8762 regulatory rules 8760 to transactions selected 8602 based upon locale of the vending machine system owner. In certain further embodiments, arrow 8502 provides data to profile generator 8400 based upon filter hierarchy 8500 configured by secure command and control client 8300 directing 8506 filter database 8720 to apply 8762 regulatory rules 8760 to transactions selected 8602 based upon locale of the transactions. In certain further embodiments, arrow 8502 provides data to profile generator 8400 based upon filter hierarchy 8500 configured by secure command and control client 8300 directing 8506 filter database 8720 to apply 8762 regulatory rules 8760 to transactions selected 8602 based upon locale of specific identified users. In certain further embodiments, arrow 8502 provides data to profile generator 8400 based upon filter hierarchy 8500 configured by secure command and control client 8300 directing 8506 filter database 8720 to apply 8762 regulatory rules 8760 to transactions selected 8602 based upon locale of the vending machine for which a local access profile node is to be constructed.

As in Figure 35, in certain embodiments, user advertising preferences 8740 are entered 8742 into filter database 8720. In certain further embodiments, arrow 8742 supports communication in a messaging compatible protocol. In certain further embodiments, arrow 8742 supports communication in a messaging protocol compatible with TCP-IP.

As in Figure 35, in certain further embodiments, user advertising preferences 8740 are entered 8742 into filter database 8720 through security filter 8744. In certain further embodiments, security filter 8744 includes a firewall.

As in Figure 35, in certain further embodiments, the user advertising preferences 8740 are associated with an identified user of financial access vending machines. In certain further embodiments, user advertising preferences 8740 may include but are not limited to selecting to belong to a group advertising preference. Such groups advertising interests include but are not limited to fan associations for a sporting team, performer, as well as for a kind of entertainment, hobby, religious interest or political affiliation.

As in Figure 35, in certain further embodiments, the user advertising preferences 8740 are associated with a mercantile venture. In certain further embodiments, the mercantile venture advertising preferences 8740 may include but are not limited to the specification of advertising content. In certain further embodiments, the advertising content may include but is not limited to trademarked content. In certain further embodiments, the advertising content may include but is not limited to textual content. In certain further embodiments, the advertising content may include but is not limited to graphical content. In certain further embodiments, the advertising content may include but is not limited to motion video content. In certain further embodiments, the advertising content may include but is not limited to synchronized audio content.

As in Figure 35, in certain further embodiments, the mercantile venture advertising preferences 8740 may include but are not limited to the specification of advertising content with targeting market directions. In certain further embodiments, the targeting market directions include but are not limited to specification of a geographic region. In certain further embodiments, the targeting market directions include but are not limited to specification of a geographic region containing the locale of at least one financial access vending machine. In certain further embodiments, the targeting market directions include but are not limited to specification of a geographic region as well as the specification of at least one time period.

As in Figure 35, in certain further embodiments, the mercantile venture advertising preferences 8740 may include but are not limited to the specification of advertising content with targeting market directions including specification of group advertising preferences. In certain further embodiments, 5 the targeting market directions include but are not limited to specification of group advertising preferences for a geographic region. In certain further embodiments, the targeting market directions include but are not limited to specification of group advertising preferences for a geographic region containing the locale of at least one financial access vending machine. In 10 certain further embodiments, the targeting market directions include but are not limited to specification of group advertising preferences for a geographic region as well as the specification of at least one time period.

As in Figure 35, in certain further embodiments, the mercantile venture advertising preferences 8740 may include but are not limited to the 15 specification of advertising content with targeting market directions based upon user profile characteristics. In certain further embodiments, the targeting market directions include but are not limited to specification of a geographic region based upon user profile characteristics. In certain further embodiments, the targeting market directions include but are not limited to specification of a 20 geographic region containing the locale of at least one financial access vending machine based upon user profile characteristics. In certain further embodiments, the targeting market directions include but are not limited to specification of a geographic region as well as the specification of at least one time period based upon user profile characteristics.

25 As in Figure 35, in certain embodiments, the user profile characteristics may include but not be limited to a collection including some or all of: gender, age, income level, financial access card type, credit rating from a financial access mechanism and specified advertising interests.

As in Figure 35, in certain embodiments, regulatory rule base 8760 are 30 entered 8762 into filter database 8720. In certain further embodiments, arrow

8762 supports communication in a messaging compatible protocol. In certain further embodiments, arrow **8762** supports communication in a messaging protocol compatible with TCP-IP.

As in Figure **35**, in certain further embodiments, regulatory rule base **8760** are entered **8762** into filter database **8720** through security filter **8764**. In certain further embodiments, security filter **8764** includes a firewall.

As in Figure **35**, in certain further embodiments, the regulatory rule base **8760** are associated with an identified regulatory body with an identified geographical jurisdiction. In certain further embodiments, regulatory rule base **8760** may include but are not limited to selecting compliance for a group advertising preference. In certain further embodiments, regulatory rule base **8760** may include but are not limited to selecting non-compliance for a group advertising preference. Such groups advertising interests include but are not limited to fan associations for a sporting team, performer, as well as for a kind of entertainment, hobby, religious interest or political affiliation.

As in Figure **35**, in certain embodiments, regulatory rule base **8760** may include but are not limited to selecting compliance or non-compliance for a user profile characteristic. In certain further embodiments, the user profile characteristics may include but not be limited to a collection including some or all of: gender, age, income level, financial access card type, credit rating from a financial access mechanism and specified advertising interests.

As in Figure **35**, in certain further embodiments, regulatory rule base **8760** may include but are not limited to selecting compliance or non-compliance for a group advertising preference based upon one or more user profile characteristics. By way of example, it may be prohibited to advertise firearms when the user is under a specific age, or it may be prohibited to advertise certain drugs to people who do not belong to populations deemed at risk for the condition treated by the drug.

As in Figure 35, in certain embodiments, regulatory rule base 8760 may include but is not limited to specifying filters in the filter hierarchy 8500 removing certain kinds of information from being used to generate user profiles. In certain further embodiments, a regulatory filter may be specified to
5 *limit knowledge of the specific contents of a financial transaction such as what*
was purchased. In certain further embodiments, a regulatory filter may be specified to limit knowledge received from a external database. In certain further embodiments, a regulatory filter may be specified to limit knowledge received from a external database without specified authorization. In certain
10 further embodiments, a regulatory filter may be specified to limit knowledge received from a external database with specified authorization.

As in Figure 35, in certain embodiments, data from external database 8620 enters 8612 into transaction history database 8600. In certain further embodiments, arrow 8612 supports communication in a messaging
15 compatible protocol. In certain further embodiments, arrow 8612 supports communication in a messaging protocol compatible with TCP-IP.

As in Figure 35, in certain further embodiments, data from external database 8620 enters 8612 into transaction history database 8600 through security filter 8614. In certain further embodiments, security filter 8614 includes a firewall.

20 As in Figure 35, in certain embodiments, arrow 8614 depicts data in the form of parameterized summary reports of transactions found in external database 8620.

As in Figure 35, in certain further embodiments, the external database 8620 is associated with an identified financial access mechanism. In certain further
25 embodiments, the external database 8620 is associated with an identified merchant access mechanism.

As in Figure 35, in certain embodiments, arrow 8602 depicts data in the form of parameterized summary reports of transactions found in transaction history database 8600. In certain embodiments, arrow 8602 depicts data in the form

of parameterized summary reports based upon the geographic region where transactions occurred as found in transaction history database **8600**. In certain embodiments, arrow **8602** depicts data in the form of parameterized summary reports based upon a geographic region of identified users involved in transactions found in transaction history database **8600**. In certain
5 embodiments, arrow **8602** depicts data in the form of parameterized summary reports based upon a geographic region of identified mercantile users involved in transactions found in transaction history database **8600**. In certain embodiments, arrow **8602** depicts data in the form of parameterized summary
10 reports based upon a geographic region of identified financial access vending machine users involved in transactions found in transaction history database **8600**. In certain embodiments, arrow **8602** depicts data in the form of parameterized summary reports based upon a financial access vending machine locale involved in transactions found in transaction history database
15 **8600**.

As in Figure 35, in certain embodiments, profile generator **8400** produces profiles **8402** which are either local access profile nodes **8032** of one or more local user access profile collections **8030** or profiles **8022** of user profile collection **8020**. In certain further embodiments, profiles **8022** of user profile
20 collection **8020** include but are not limited to user profiles for identified users of financial access vending machines.

As in Figure 35, in certain further embodiments, profiles **8022** of user profile collection **8020** include but are not limited to profiles for merchants represented in at least one financial access vending machines. In certain
25 further embodiments, profiles **8022** of user profile collection **8020** include but are not limited to profiles for local merchants represented in at least one financial access vending machines.

As in Figure 35, in certain embodiments, merchant profiles **8022** of user profile collection **8020** include advertising content. In certain further
30 embodiments, merchant profiles **8022** of user profile collection **8020** include

textual advertising content. In certain further embodiments, merchant profiles **8022** of user profile collection **8020** include graphical advertising content. In certain further embodiments, merchant profiles **8022** of user profile collection **8020** include motion video advertising content. In certain further
5 embodiments, merchant profiles **8022** of user profile collection **8020** include synchronized audio advertising content.

As in Figure 35, in certain further embodiments, merchant profiles **8022** of user profile collection **8020** include contract offers for at least one of the identified users. In certain further embodiments, merchant profiles **8022** of
10 user profile collection **8020** include contract offers for identified users whose user profile matches an offer template. In certain further embodiments, merchant profiles **8022** of user profile collection **8020** include contract offers for identified users whose user profile does not match an offer-refusal template.

15 As in Figure 35, in certain embodiments, profiles **8402** generated by profile generator **8400** may include at least one program code segment. In certain further embodiments, profile program code segments **8402** may include but are not limited to link references, which when the profile program code segment has been transmitted to the relevant financial access vending
20 machine computer, become links or references to locally stored instantiations of the link reference. In certain further embodiments, the link reference may be locally instantiated as a program code segment. In certain further embodiments, the link reference may be locally instantiated as textual. In certain further embodiments, the link reference may be locally instantiated as graphical content. In certain further embodiments, the link reference may be
25 locally instantiated as motion video content. In certain further embodiments, the link reference may be locally instantiated as synchronized audio content.

Figure 37 depicts a simplified flow diagram of filter hierarchy **8500** as shown in Figures 35 and 36, in accordance with certain embodiments.

By way of example, an international regulatory filter **8510** is provided, which could represent user profile regulatory rules for the European Union or other international agreement organization.

5 The data flow **8602** from transaction history database **8600** is first presented to international regulatory filter **8510** which generates data stream **8528**, which is then sent to national regulatory filters **8522**, **8524** and **8526**.

The data flow **8528** from international regulatory filter **8510** is presented to national regulatory filter **8522** which generates data stream **8528**, which is then sent to state regulatory filters **8532**, **8534** and **8536**.

10 The data flow **8538** from national regulatory filter **8522** is presented to state regulatory filter **8532** which generates data stream **8538**, which is then sent to county regulatory filters **8542**, **8544** and **8546**.

15 The data flow **8548** from state regulatory filter **8532** is presented to county regulatory filter **8542** which generates data stream **8548**, which is then sent to municipal regulatory filters **8552**, **8554** and **8556**.

The data flow **8558** from county regulatory filter **8542** is presented to municipal regulatory filter **8552** which generates data stream **8568**, which is then sent to user preference filters **8562**, **8564** and **8566**.

20 The municipal regulatory filter **8552** generates data stream **8568**, which is then sent to user preference filter **8562**, which in turn generates data flow **8571** to group preference filter **8572**, data flow **8573** to group preference filter **8574** as well as data flow **8576**. Group preference filter **8572** generates data flow **8582**. Group preference filter **8574** generates data flow **8584**.

25 The collective result **8502** of the filter hierarchy for the user associated with user preference filter **8562** is the cumulative effect of data flows **8576**, **8582** and **8584**.

In certain embodiments, the user preference filter **8562** may be associated with an identified user of the financial access mechanism. In certain other

embodiments, the user may be a merchant who has purchased the right to advertise locally with regards one or more of the financial access vending machine locales. In certain other embodiments, the user may be a merchant who has purchased the right to regulatory approved advertising content.

- 5 In certain embodiments, the advertising content is collected **8502** into collections of data, possibly containing additional advertising content (text, graphics, motion video, synchronized audio), to be sent to various financial access vending machine computers for later presentation to users.

Certain embodiments include a method of directing profile presentations
10 across a network of vending machines communicatively coupled to said network controlled by a vending system server communicatively coupled to said network comprised of a vending system server process and a process for each of the vending machines communicatively coupled to the network.

Figure **38** depicts a flowchart performing the process for each of the vending
15 machines communicatively coupled to the network in accordance with certain embodiments.

Operation **2000** starts the operations of this flowchart. Arrow **2002** directs the flow of execution from operation **2000** to operation **2004**. Operation **2004** performs receiving the transmitted profile of the profile transmission list
20 associated with the communicatively coupled vending machine to create a received profile. Arrow **2006** directs execution from operation **2004** to operation **2008**. Operation **2008** performs storing the received profile in a profile library of the communicatively coupled vending machine to create a stored profile. Arrow **2010** directs execution from operation **2008** to operation
25 **2012**. Operation **2012** performs determining a profile selection from the profile library of the communicatively coupled vending machine. Arrow **2014** directs execution from operation **2012** to operation **2016**. Operation **2016** performs performing the profile selection to generate a user output stream. Arrow **2018** directs execution from operation **2016** to operation **2020**.
30 Operation **2020** terminates the operations of this flowchart.

Figure **39A** depicts a flowchart performing a vending system server process in accordance with certain embodiments.

Operation **2030** starts the operations of this flowchart. Arrow **2032** directs the flow of execution from operation **2030** to operation **2034**. Operation **2034**
5 performs generating a profile transmission list containing at least one profile, associated with each of the vending machines communicatively coupled to the network. Arrow **2036** directs execution from operation **2034** to operation **2038**. Operation **2038** performs sending each of the profiles contained in the associated profile transmission list to each of the vending machines
10 communicatively coupled to the network. Arrow **2040** directs execution from operation **2038** to operation **2042**. Operation **2042** terminates the operations of this flowchart.

Figure **39B** depicts a detail flowchart of operation **2034** of Figure **39A** further performing generating a profile transmission list containing at least one profile,
15 associated with each of the vending machines communicatively coupled to the network in accordance with certain embodiments.

Arrow **2050** directs the flow of execution from starting operation **2034** to operation **2052**. Operation **2052** performs generating each of the profiles of the profile transmission list from the transaction summary based upon the
20 profile request. Arrow **2054** directs execution from operation **2052** to operation **2056**. Operation **2056** performs generating each of the profiles of the profile transmission list from the transaction summary based upon the profile request. Arrow **2058** directs execution from operation **2056** to operation **2060**. Operation **2060** terminates the operations of this flowchart.

25 Figure **40** depicts a detail flowchart of operation **2034** of Figure **39A** further performing generating a profile transmission list containing at least one profile, associated with each of the vending machines communicatively coupled to the network in accordance with certain embodiments.

Arrow **2070** directs the flow of execution from starting operation **2034** to operation **2072**. Operation **2072** performs creating a hierarchical filter comprised of a hierarchical filter entry for each profile request of each of the profiles of the profile transmission list. Arrow **2074** directs execution from
5 operation **2072** to operation **2076**. Operation **2076** performs filtering using the hierarchical filter processing the transaction database to provide a transaction summary based upon a profile request for each of the profile of the profile transmission list. Arrow **2078** directs execution from operation **2076** to operation **2080**. Operation **2080** performs generating each of the profiles of
10 the profile transmission list from the transaction summary based upon the profile request of each of the profiles of the transmission profile collection. Arrow **2082** directs execution from operation **2080** to operation **2084**. Operation **2084** terminates the operations of this flowchart.

Certain further embodiments comprise the profile requests including a locale
15 designator.

Figure **41** depicts a detail flowchart of operation **2072** of Figure **40** further performing creating the hierarchical filter comprised of the hierarchical filter entry for each profile request of each of the profiles of the profile transmission list in accordance with certain embodiments.

20 Arrow **2090** directs the flow of execution from starting operation **2072** to operation **2092**. Operation **2092** performs extracting a regulatory filter tree from a filter database for the locale designator of the profile request. Arrow **2094** directs execution from operation **2092** to operation **2096**. Operation **2096** performs extracting a collection of user preference filters based upon the
25 locale designator of the profile request. Arrow **2098** directs execution from operation **2096** to operation **2100**. Operation **2100** performs constructing the hierarchical filter entry from the regulatory filter tree and from the user preference filter collection. Arrow **2102** directs execution from operation **2100** to operation **2104**. Operation **2104** terminates the operations of this flowchart.

Figure **42A** depicts a detail flowchart of operation **2000** of Figure **38** further performing the process for each of the communicatively coupled vending machines in accordance with certain embodiments.

Arrow **2110** directs the flow of execution from starting operation **2000** to operation **2112**. Operation **2112** performs determining a user identification. Arrow **2114** directs execution from operation **2112** to operation **2116**. Operation **2116** performs fetching a user profile associated with the user identification. Arrow **2118** directs execution from operation **2116** to operation **2120**. Operation **2120** terminates the operations of this flowchart.

Figure **42B** depicts a detail flowchart of operation **2016** of Figure **38** performing the profile selection to generate the user output stream in accordance with certain embodiments.

Arrow **2130** directs the flow of execution from starting operation **2016** to operation **2132**. Operation **2132** performs performing the user profile. Arrow **2134** directs execution from operation **2132** to operation **2136**. Operation **2136** terminates the operations of this flowchart.

Figure **43A** depicts a detail flowchart of operation **2116** of Figure **42A** further performing fetching the user profile associated with the user identification in accordance with certain embodiments.

Arrow **2150** directs the flow of execution from starting operation **2116** to operation **2152**. Operation **2152** performs requesting the user profile associated with the user identification from the vending system server to create a user profile request associated with the user identification by the vending machine. Arrow **2154** directs execution from operation **2152** to operation **2156**. Operation **2156** performs receiving the user profile from the vending system server. Arrow **2158** directs execution from operation **2156** to operation **2160**. Operation **2160** terminates the operations of this flowchart.

Figure **43B** depicts a detail flowchart of operation **2030** of Figure **39A** further performing the vending system server process in accordance with certain embodiments.

Arrow **2170** directs the flow of execution from starting operation **2030** to operation **2172**. Operation **2172** performs receiving the user profile request associated with the user identification by the vending machine to create a received user profile request associated with the user identification by the vending machine. Arrow **2174** directs execution from operation **2172** to operation **2176**. Operation **2176** performs retrieving the user profile based upon the received user profile request associated with the user identification by the vending machine. Arrow **2178** directs execution from operation **2176** to operation **2180**. Operation **2180** performs sending the user profile to the vending machine. Arrow **2182** directs execution from operation **2180** to operation **2184**. Operation **2184** terminates the operations of this flowchart.

Figure **44A** depicts a detail flowchart of operation **2000** of Figure **38** further performing the process for each of the communicatively coupled vending machines in accordance with certain embodiments.

Arrow **2190** directs the flow of execution from starting operation **2000** to operation **2192**. Operation **2192** performs ascertaining the locale time to create the perceived time. Arrow **2194** directs execution from operation **2192** to operation **2196**. Operation **2196** terminates the operations of this flowchart.

Figure **44B** depicts a detail flowchart of operation **2016** of Figure **38** performing the profile selection to generate a user output stream based upon the perceived time in accordance with certain embodiments.

Arrow **2210** directs the flow of execution from starting operation **2016** to operation **2212**. Operation **2212** performs performing the profile selection to generate a user output stream based upon the perceived time. Arrow **2214** directs execution from operation **2212** to operation **2216**. Operation **2216** terminates the operations of this flowchart.

Figure **44C** depicts a detail flowchart of operation **2012** of Figure **38** performing determining a profile selection from the profile library of the communicatively coupled vending machine based upon the perceived time in accordance with certain embodiments.

- 5 Arrow **2230** directs the flow of execution from starting operation **2012** to operation **2232**. Operation **2232** performs determining a profile selection from the profile library of the communicatively coupled vending machine based upon the perceived time. Arrow **2234** directs execution from operation **2232** to operation **2236**. Operation **2236** terminates the operations of this flowchart.
- 10 Certain embodiments comprise the profile selection including a presentation content reference.

Figure **45A** depicts a detail flowchart of operation **2016** of Figure **38** performing inserting the presentation content included in the profile selection into the user output stream in accordance with certain embodiments.

- 15 Arrow **2250** directs the flow of execution from starting operation **2016** to operation **2252**. Operation **2252** performs inserting the presentation content included in the profile selection into the user output stream. Arrow **2254** directs execution from operation **2252** to operation **2256**. Operation **2256** terminates the operations of this flowchart.
- 20 Certain embodiments comprise the profile selection including a presentation content reference further including a motion video sequence.

- Figure **45B** depicts a detail flowchart of operation **2252** of Figure **45A** performing inserting the motion video sequence included in the presentation content included in the profile selection into the user output stream in
25 accordance with certain embodiments.

Arrow **2270** directs the flow of execution from starting operation **2252** to operation **2272**. Operation **2272** performs inserting the motion video sequence included in the presentation content included in the profile selection

into the user output stream. Arrow **2274** directs execution from operation **2272** to operation **2276**. Operation **2276** terminates the operations of this flowchart.

5 Figure **46** depicts a detail flowchart of operation **2038** of Figure **39A** further performing sending each of said profiles contained in said associated profile transmission list to each of said vending machines communicatively coupled to said network in accordance with certain embodiments.

Arrow **2290** directs the flow of execution from starting operation **2038** to operation **2292**. Operation **2292** performs sending said associated profile transmission list to each of said vending machines. Arrow **2294** directs execution from operation **2292** to operation **2296**. Operation **2296** performs generating a transmission profile collection comprising profiles from said associated profile transmissions of said vending machines belonging to a vending machine collection of said vending machines communicatively coupled to said network. Arrow **2298** directs execution from operation **2296** to operation **2300**. Operation **2300** performs sending each of said profiles of said transmission profile collection to said vending machines of said vending machine collection to create a sent profile. Arrow **2302** directs execution from operation **2300** to operation **2304**. Operation **2304** terminates the operations of this flowchart.

Figure **47A** depicts a detail flowchart of operation **2000** of Figure **38** further performing receiving said transmitted profile of said profile transmission list associated with said communicatively coupled vending machine to create a received profile in accordance with certain embodiments.

25 Arrow **2310** directs the flow of execution from starting operation **2000** to operation **2312**. Operation **2312** performs receiving said associated profile transmission list for said vending machine. Arrow **2314** directs execution from operation **2312** to operation **2316**. Operation **2316** performs receiving said sent profile to create a received candidate profile. Arrow **2318** directs execution from operation **2316** to operation **2320**. Operation **2320** performs

determining whether said received candidate profile is included in said associated profile transmission list. Arrow **2322** directs execution from operation **2320** to operation **2324**. Operation **2324** terminates the operations of this flowchart.

- 5 Figure **47B** depicts a detail flowchart of operation **2008** of Figure **38** performing storing said received profile in a profile library of said communicatively coupled vending machine to create a stored profile in accordance with certain embodiments.

Arrow **2320** directs the flow of execution from starting operation **2008** to
10 operation **2322**. Operation **2322** performs storing said received profile in a profile library of said communicatively coupled vending machine to create a stored profile whenever said received candidate profile is included in said associated profile transmission list. Arrow **2324** directs execution from operation **2322** to operation **2326**. Operation **2326** terminates the operations
15 of this flowchart.

Figure **48** depicts a detail flowchart of operation **2332** of Figure **47B** further performing storing said received profile in a profile library of said communicatively coupled vending machine to create a stored profile whenever said received candidate profile is included in said associated profile
20 transmission list in accordance with certain embodiments.

Arrow **2350** directs the flow of execution from starting operation **2332** to operation **2352**. Operation **2352** determines when said received candidate profile is included in said associated profile transmission list. Arrow **2354** directs execution from operation **2352** to operation **2356** when the
25 determination is 'Yes'. Arrow **2368** directs execution to **2360** when the determination is 'No'.

Operation **2356** performs storing said received profile in said profile library of said communicatively coupled vending machine to create a stored profile.

Arrow **2358** directs execution from operation **2356** to operation **2360**. Operation **2360** terminates the operations of this flowchart.

Figure **49A** depicts a flowchart performing a method of generating a profile summary collection containing at least one profile summary for each profile request contained in a profile request collection from a transaction database in accordance with certain embodiments.

Operation **2370** starts the operations of this flowchart. Arrow **2372** directs the flow of execution from operation **2370** to operation **2374**. Operation **2374** performs creating a hierarchical filter comprised of a hierarchical filter entry for each of the profile requests in said profile request collection. Arrow **2376** directs execution from operation **2374** to operation **2378**. Operation **2378** performs filtering using said hierarchical filter processing said transaction database to provide a profile summary based upon a profile request in said profile request collection. Arrow **2380** directs execution from operation **2378** to operation **2382**. Operation **2382** terminates the operations of this flowchart.

In certain further embodiments, each of said profile requests in said profile request collection includes a locale designator.

Figure **49B** depicts a detail flowchart of operation **2374** of Figure **49A** further performing creating said hierarchical filter comprised of said hierarchical filter entry for each profile request in said profile request collection in accordance with certain embodiments.

Arrow **2390** directs the flow of execution from starting operation **2374** to operation **2392**. Operation **2392** performs extracting a regulatory filter tree from a filter database for said locale designator of said profile request. Arrow **2394** directs execution from operation **2392** to operation **2396**. Operation **2396** performs extracting a collection of user preference filters based upon said locale designator of said profile request. Arrow **2398** directs execution from operation **2396** to operation **2400**. Operation **2400** performs constructing said hierarchical filter entry from said regulatory filter tree and

from said user preference filter collection. Arrow **2402** directs execution from operation **2400** to operation **2404**. Operation **2404** terminates the operations of this flowchart.

Figure **50** depicts a data flow diagram between various component object families within ATM director object family **7100** and their communication with several object families as shown in Figures **26** and **34A**, in accordance with certain embodiments.

Command queue object family **7110** acts as a message queue storing the incoming commands, in certain embodiments. Command queue object family **7110** provides buffering for events from the command and control object family **7006** and other sources, in certain further embodiments. Command queue object family **7110** is priority based, in certain embodiments. Device events have the highest priority and Commands from the Command Station have the lowest, in certain further embodiments. In certain further embodiments, the prioritization is user modifiable.

The profile-page processor **7130** identifies **7132** the Events that this page can generate and the commands that need to be executed. E.g. A button on the page may generate an event and/or command. The profile-page processor **7130** processes the HTML file retrieved **7142** from the file management system **7140** that the profile-page processor **7130** is displaying.

Command processor object family **7120** executes commands in the command queue object family **7110** using the information in the profile-page processor **7130**.

The profile-page processor **7130** loads **7134** the page to be displayed and parses the information like events supported, commands to execute and the next page to transition to.

When an internal event(generated by an HTML element) or external event (Device Event, TM event, etc.) or there is a command pending in the Command Queue the following happens :

1. The Event is matched with the list of <ATMEvent> tags.
2. The Function defined by the event is loaded and executed.
3. The next page defined by the event is loaded.

The preceding embodiments have been provided by way of example and are
5 not meant to constrain the scope of the following claims.

Claims

1. A method of directing profile presentations across a network of vending machines communicatively coupled to said network controlled by a vending system server communicatively coupled to said network comprised of
- 5 a process for said vending system server which is further comprised of the steps of
- generating a profile transmission list containing at least one profile, associated with each of said vending machines communicatively coupled to said network; and
- 10 sending each of said profiles contained in said associated profile transmission list to each of said vending machines communicatively coupled to said network; and
- a process for each of said communicatively coupled vending machines which is further comprised of the steps of
- 15 receiving said transmitted profile of said profile transmission list associated with said communicatively coupled vending machine to create a received profile;
- storing said received profile in a profile library of said communicatively coupled vending machine to create a stored profile;
- 20 determining a profile selection from said profile library of said communicatively coupled vending machine; and
- performing said profile selection to generate a user output stream.
2. A method as recited in Claim 1,
- wherein generating said profile transmission list, associated with each
- 25 of said vending machines communicatively coupled to said network is further comprised of the steps of
- filtering a transaction database to provide a transaction summary based upon said profile request; and
- generating each of said profiles of said profile transmission list from
- 30 said transaction summary based upon said profile request.

3. A method as recited in Claim 2,
wherein generating a profile transmission list containing at least one profile, associated with each of said vending machines communicatively coupled to said network is further comprised of the steps of
- 5 creating a hierarchical filter comprised of a hierarchical filter entry for each profile request of each of said profiles of said profile transmission list;
filtering using said hierarchical filter processing said transaction database to provide a transaction summary based upon a profile request for each of said profile of said profile transmission list; and
- 10 generating each of said profiles of said profile transmission list from said transaction summary based upon said profile request of each of said profiles of said transmission profile collection.
4. A method as recited in Claim 3,
wherein said profile request includes a locale designator;
- 15 wherein creating said hierarchical filter comprised of said hierarchical filter entry for each profile request of each of said profiles of said profile transmission list is further comprised of the steps of
- extracting a regulatory filter tree from a filter database for said locale designator of said profile request;
- 20 extracting a collection of user preference filters based upon said locale designator of said profile request; and
- constructing said hierarchical filter entry from said regulatory filter tree and from said user preference filter collection.
5. A method as recited in Claim 1,
- 25 wherein said process for each of said communicatively coupled vending machines further comprised of the steps of
- determining a user identification; and
- fetching a user profile associated with said user identification; and
- wherein performing said profile selection to generate said user output
- 30 stream is further comprised of the step of
- performing said user profile.

6. A method as recited in Claim 5,
wherein fetching said user profile associated with said user
identification is further comprised of the steps of
requesting said user profile associated with said user identification from
5 said vending system server to create a user profile request associated with
said user identification by said vending machine; and
receiving said user profile from said vending system server; and
wherein said process for said vending system server is further
comprised of the steps of
10 receiving said user profile request associated with said user
identification by said vending machine to create a received user profile
request associated with said user identification by said vending machine;
retrieving said user profile based upon said received user profile
request associated with said user identification by said vending machine; and
15 sending said user profile to said vending machine.
7. A method as recited in Claim 1,
wherein said process for each of said communicatively coupled
vending machines is further comprised of the steps of
ascertaining said locale time to create said perceived time; and
20 wherein performing said profile selection to generate a user output
stream is further comprised of the steps of
performing said profile selection to generate a user output stream
based upon said perceived time.
8. A method as recited in Claim 7,
25 wherein determining a profile selection from said profile library of said
communicatively coupled vending machine is further comprised of
determining a profile selection from said profile library of said
communicatively coupled vending machine based upon said perceived time.
9. A method as recited in Claim 1,

wherein said profile selection includes a presentation content reference;

wherein performing said profile selection to generate said user output stream is further comprised of the steps of

5 inserting said presentation content included in said profile selection into said user output stream.

10. A method as recited in Claim 9,

wherein said presentation content includes a motion video sequence;

and

10 wherein inserting said presentation content included in said profile selection into said user output stream is further comprised of the steps of

inserting said motion video sequence, included in said presentation content included in said profile selection, into said user output stream.

11. A method as recited in Claim 1,

15 wherein sending each of said profiles contained in said associated profile transmission list to each of said vending machines communicatively coupled to said network is further comprised of the steps of

sending said associated profile transmission list to each of said vending machines;

20 generating a transmission profile collection comprising profiles from said associated profile transmissions of said vending machines belonging to a vending machine collection of said vending machines communicatively coupled to said network; and

25 sending each of said profiles of said transmission profile collection to said vending machines of said vending machine collection to create a sent profile; and

wherein receiving said transmitted profile of said profile transmission list associated with said communicatively coupled vending machine to create said received profile is further comprised of the steps of

30 receiving said associated profile transmission list for said vending machine;

receiving said sent profile to create a received candidate profile; and
determining whether said received candidate profile is included in said
associated profile transmission list; and

wherein storing said received profile in said profile library of said
5 communicatively coupled vending machine to create said stored profile is
further comprised of the step of

storing said received profile in said profile library of said
communicatively coupled vending machine to create said stored profile
whenever said received candidate profile is included in said associated profile
10 transmission list.

12. A program operating system directing profile presentations across a
network of vending machine computers each with accessibly coupled
computer memory communicatively coupled to said network controlled by a
vending system server comprised of at least one server computer with
15 accessibly coupled computer memory communicatively coupled to said
network comprised of

a program operating system residing a computer memory accessibly
coupled to at least one server computer in said vending system server which
is further comprised of

20 a program code segment supporting generating a profile transmission
list containing at least one profile, associated with each of said vending
machines communicatively coupled to said network; and

a program code segment supporting sending each of said profiles
contained in said associated profile transmission list to each of said vending
25 machines communicatively coupled to said network; and

a program operating system residing in a computer memory accessibly
coupled to at least one computer of each of said communicatively coupled
vending machine computer systems is further comprised of

a program code segment supporting receiving said transmitted profile
30 of said profile transmission list associated with said communicatively coupled
vending machine to create a received profile;

a program code segment supporting storing said received profile in a profile library of said communicatively coupled vending machine to create a stored profile;

5 a program code segment supporting determining a profile selection from said profile library of said communicatively coupled vending machine; and

a program code segment supporting performing said profile selection to generate a user output stream.

13. A program operating system as recited in Claim 12,
10 wherein said program code segment supporting generating said profile transmission list, associated with each of said vending machines communicatively coupled to said network is further comprised of

a program code segment supporting filtering a transaction database to provide a transaction summary based upon said profile request; and

15 a program code segment supporting generating each of said profiles of said profile transmission list from said transaction summary based upon said profile request.

14. A program operating system as recited in Claim 13,
20 wherein said program code segment supporting generating a profile transmission list containing at least one profile, associated with each of said vending machines communicatively coupled to said network is further comprised of

a program code segment supporting creating a hierarchical filter comprised of a hierarchical filter entry for each profile request of each of said
25 profiles of said profile transmission list;

a program code segment supporting filtering using said hierarchical filter processing said transaction database to provide a transaction summary based upon a profile request for each of said profile of said profile transmission list; and

a program code segment supporting generating each of said profiles of said profile transmission list from said transaction summary based upon said profile request of each of said profiles of said transmission profile collection.

15. A program operating system as recited in Claim 14,

5 wherein said profile request includes a locale designator;

wherein said program code segment supporting creating said hierarchical filter comprised of said hierarchical filter entry for each profile request of each of said profiles of said profile transmission list is further comprised of

10 a program code segment supporting extracting a regulatory filter tree from a filter database for said locale designator of said profile request;

a program code segment supporting extracting a collection of user preference filters based upon said locale designator of said profile request; and

15 a program code segment supporting constructing said hierarchical filter entry from said regulatory filter tree and from said user preference filter collection.

16. A program operating system as recited in Claim 12,

20 wherein said program operating system residing in said computer memory accessibly coupled to at least one of said computers of each of said communicatively coupled vending machine computer systems is further comprised of

a program code segment supporting determining a user identification; and

25 a program code segment supporting fetching a user profile associated with said user identification; and

wherein said program code segment supporting performing said profile selection to generate said user output stream is further comprised of

a program code segment supporting performing said user profile.

30 17. A program operating system as recited in Claim 16,

wherein said program code segment supporting fetching said user profile associated with said user identification is further comprised of

a program code segment supporting requesting said user profile associated with said user identification from said vending system server to
5 create a user profile request associated with said user identification by said vending machine; and

a program code segment supporting receiving said user profile associated with said user identification from said vending system server; and

wherein said program operating system residing said computer
10 memory accessibly coupled to at least one of said server computer in said vending system server is further comprised of

a program code segment supporting receiving said user profile request associated with said user identification by said vending machine to create a received user profile request associated with said user identification by said
15 vending machine;

a program code segment supporting retrieving said user profile based upon said received user profile request associated with said user identification by said vending machine; and

a program code segment supporting sending said user profile
20 associated with said user identification to said vending machine.

18. A program operating system as recited in Claim 12,

wherein said program operating system residing in said computer memory accessibly coupled to at least one of said computers of each of said communicatively coupled vending machine computer systems is further
25 comprised of

a program code segment supporting ascertaining said locale time to create said perceived time; and

wherein said program code segment supporting performing said profile selection to generate a user output stream is further comprised of

30 a program code segment supporting performing said profile selection to generate a user output stream based upon said perceived time.

19. A program operating system as recited in Claim 18,
wherein said program code segment supporting determining a profile
selection from said profile library of said communicatively coupled vending
machine is further comprised of

5 a program code segment supporting determining a profile selection
from said profile library of said communicatively coupled vending machine
based upon said perceived time.

20. A program operating system as recited in Claim 12,
wherein said profile selection includes a presentation content
10 reference;

wherein said program code segment supporting performing said profile
selection to generate said user output stream is further comprised of

a program code segment supporting inserting said presentation content
included in said profile selection, into said user output stream.

15 21. A program operating system as recited in Claim 20,
wherein said presentation content includes a motion video sequence;
and

wherein said program code segment supporting inserting said
presentation content, included in said profile selection, into said user output
20 stream is further comprised of

a program code segment supporting inserting said motion video
sequence, included in said presentation content included in said profile
selection, into said user output stream.

22. A program operating system as recited in Claim 12,

25 wherein said program code segment supporting sending each of said
profiles contained in said associated profile transmission list to each of said
vending machines communicatively coupled to said network is further
comprised of the steps of

a program code segment supporting sending said associated profile
30 transmission list to each of said vending machines;

a program code segment supporting generating a transmission profile collection comprising profiles from said associated profile transmissions of said vending machines belonging to a vending machine collection of said vending machines communicatively coupled to said network; and

5 a program code segment supporting sending each of said profiles of said transmission profile collection to said vending machines of said vending machine collection to create a sent profile; and

a program operating system residing in a computer memory accessibly coupled to at least one computer of each of said communicatively coupled
10 vending machine computer systems is comprised of

a program code segment supporting receiving said associated profile transmission list for said vending machine;

a program code segment supporting receiving said sent profile to create a received candidate profile; and

15 a program code segment supporting determine whether said received candidate profile is included in said associated profile transmission list; and

wherein said program code segment supporting storing said received profile in said profile library of said communicatively coupled vending machine to create said stored profile is further comprised of the step of

20 a program code segment supporting storing said received profile in said profile library of said communicatively coupled vending machine to create said stored profile whenever said received candidate profile is included in said associated profile transmission list.

23. A vending machine system directing profile presentations across a
25 network of vending machine computer systems comprised of;

each of said vending machine computer systems is further comprised of at least one computer accessibly coupled to computer memory and communicatively coupled to said network,

a vending system server comprised of at least one server computer
30 with accessibly coupled computer memory communicatively coupled to said network and controlling said network;

wherein a program operating system residing a computer memory accessibly coupled to at least one server computer in said vending system server which is further comprised of;

5 a program code segment supporting generating a profile transmission list containing at least one profile, associated with each of said vending machines communicatively coupled to said network; and

a program code segment supporting sending each of said profiles contained in said associated profile transmission list to each of said vending machines communicatively coupled to said network; and

10 wherein a program operating system residing in a computer memory accessibly coupled to at least one computer of each of said communicatively coupled vending machine computer systems is comprised of;

a program code segment supporting receiving said transmitted profile of said profile transmission list associated with said communicatively coupled
15 vending machine to create a received profile;

a program code segment supporting storing said received profile in a profile library of said communicatively coupled vending machine to create a stored profile;

20 a program code segment supporting determining a profile selection from said profile library of said communicatively coupled vending machine; and

a program code segment supporting performing said profile selection to generate a user output stream.

24. A vending machine system as recited in Claim 23,

25 wherein said program code segment supporting generating said profile transmission list, associated with each of said vending machines communicatively coupled to said network is further comprised of

a program code segment supporting filtering a transaction database to provide a transaction summary based upon said profile request; and

30 a program code segment supporting generating each of said profiles of said profile transmission list from said transaction summary based upon said profile request.

25. A vending machine system as recited in Claim 24,

wherein said program code segment supporting generating a profile transmission list containing at least one profile, associated with each of said vending machines communicatively coupled to said network is further
5 comprised of

a program code segment supporting creating a hierarchical filter comprised of a hierarchical filter entry for each profile request of each of said profiles of said profile transmission list;

10 a program code segment supporting filtering using said hierarchical filter processing said transaction database to provide a transaction summary based upon a profile request for each of said profile of said profile transmission list; and

a program code segment supporting generating each of said profiles of said profile transmission list from said transaction summary based upon said
15 profile request of each of said profiles of said transmission profile collection.

26. A vending machine system as recited in Claim 25,

wherein said profile request includes a locale designator;

wherein said program code segment supporting creating said hierarchical filter comprised of said hierarchical filter entry for each profile
20 request of each of said profiles of said profile transmission list is further comprised of

a program code segment supporting extracting a regulatory filter tree from a filter database for said locale designator of said profile request;

25 a program code segment supporting extracting a collection of user preference filters based upon said locale designator of said profile request; and

a program code segment supporting constructing said hierarchical filter entry from said regulatory filter tree and from said user preference filter collection.

30 27. A vending machine system as recited in Claim 23,

wherein said program operating system residing in said computer memory accessibly coupled to at least one of said computers of each of said communicatively coupled vending machine computer systems is further comprised of

5 a program code segment supporting determining a user identification;
and

 a program code segment supporting fetching a user profile associated with said user identification; and

 wherein said program code segment supporting performing said profile
10 selection to generate said user output stream is further comprised of
 a program code segment supporting performing said user profile.

28. A vending machine system as recited in Claim 27,

 wherein said program code segment supporting fetching said user profile associated with said user identification is further comprised of

15 a program code segment supporting requesting said user profile associated with said user identification from said vending system server to create a user profile request associated with said user identification by said vending machine; and

 a program code segment supporting receiving said user profile
20 associated with said user identification from said vending system server; and

 wherein said program operating system residing said computer memory accessibly coupled to at least one of said server computers in said vending system server is further comprised of

 a program code segment supporting receiving said user profile request
25 associated with said user identification by said vending machine to create a received user profile request associated with said user identification by said vending machine;

 a program code segment supporting retrieving said user profile based upon said received user profile request associated with said user identification
30 by said vending machine; and

 a program code segment supporting sending said user profile associated with said user identification to said vending machine.

29. A vending machine system as recited in Claim 23,
wherein said program operating system residing in said computer
memory accessibly coupled to at least one of said computer of each of said
communicatively coupled vending machine computer systems is further
5 comprised of

a program code segment supporting ascertaining said locale time to
create said perceived time; and

wherein said program code segment supporting performing said profile
selection to generate a user output stream is further comprised of

10 a program code segment supporting performing said profile selection to
generate a user output stream based upon said perceived time.

30. A vending machine system as recited in Claim 29,
wherein said program code segment supporting determining a profile
selection from said profile library of said communicatively coupled vending
15 machine is further comprised of

a program code segment supporting determining a profile selection
from said profile library of said communicatively coupled vending machine
based upon said perceived time.

31. A vending machine system as recited in Claim 23,
20 wherein said profile selection includes a presentation content
reference;

wherein said program code segment supporting performing said profile
selection to generate said user output stream is further comprised of

a program code segment supporting inserting said presentation content
25 included in said profile selection into said user output stream.

32. A vending machine system as recited in Claim 31,
wherein said presentation content includes a motion video sequence;
and

wherein said program code segment supporting inserting said presentation content included in said profile selection into said user output stream is further comprised of

5 a program code segment supporting inserting said motion video sequence, included in said presentation content included in said profile selection, into said user output stream.

33. A vending machine system as recited in Claim 23,

wherein said program code segment supporting sending each of said profiles contained in said associated profile transmission list to each of said vending machines communicatively coupled to said network is further
10 comprised of the steps of

a program code segment supporting sending said associated profile transmission list to each of said vending machines;

15 a program code segment supporting generating a transmission profile collection comprising profiles from said associated profile transmissions of said vending machines belonging to a vending machine collection of said vending machines communicatively coupled to said network; and

a program code segment supporting sending each of said profiles of said transmission profile collection to said vending machines of said vending
20 machine collection to create a sent profile; and

said program operating system residing in said computer memory accessibly coupled to at least one of said computers of each of said communicatively coupled vending machine computer systems is further comprised of

25 a program code segment supporting receiving said associated profile transmission list for said vending machine;

a program code segment supporting receiving said sent profile to create a received candidate profile; and

30 a program code segment supporting determine whether said received candidate profile is included in said associated profile transmission list; and

wherein said program code segment supporting storing said received profile in said profile library of said communicatively coupled vending machine to create said stored profile is further comprised of the step of

5 a program code segment supporting storing said received profile in said profile library of said communicatively coupled vending machine to create said stored profile whenever said received candidate profile is included in said associated profile transmission list.

34. A method of generating a profile summary collection containing at least one profile summary for each profile request contained in a profile request collection from a transaction database is comprised of the steps of,

10 creating a hierarchical filter comprised of a hierarchical filter entry for each of said profile requests in said profile request collection; and

filtering using said hierarchical filter processing said transaction database to provide a profile summary based upon said profile request in said profile request collection.

35. A method as recited in Claim 34, wherein each of said profile requests in said profile request collection includes a locale designator;

20 wherein creating said hierarchical filter comprised of said hierarchical filter entry for each profile request in said profile request collection is further comprised of the steps of

extracting a regulatory filter tree from a filter database for said locale designator of said profile request;

25 extracting a collection of user preference filters based upon said locale designator of said profile request; and

constructing said hierarchical filter entry from said regulatory filter tree and from said user preference filter collection.

36. A program operating system supporting generating a profile summary collection containing at least one profile summary for each profile request contained in a profile request collection from a transaction database

containing program code segments residing in computer memory accessibly coupled to a computer comprised,

5 a program code segment supporting creating a hierarchical filter comprised of a hierarchical filter entry for each profile request in said profile request collection; and

a program code segment supporting filtering using said hierarchical filter processing said transaction database to provide a profile summary based upon a profile request in said profile request collection.

37. A program operating system as recited in Claim 36,
10 wherein each of said profile requests in said profile request collection includes a locale designator;

wherein said program code segment supporting creating said hierarchical filter comprised of said hierarchical filter entry for each profile request in said profile request collection is further comprised of

15 a program code segment supporting extracting a regulatory filter tree from a filter database for said locale designator of said profile request;

a program code segment supporting extracting a collection of user preference filters based upon said locale designator of said profile request; and

20 a program code segment supporting constructing said hierarchical filter entry from said regulatory filter tree and from said user preference filter collection.

38. A computer system generating a profile summary collection containing at least one profile summary for each profile request contained in a profile
25 request collection from a transaction database, comprised of

at least one computer with accessibly coupled computer memory;

wherein a program operating system supporting generating a profile summary collection containing at least one profile summary for each profile request contained in a profile request collection from a transaction database
30 contains program code segments residing in said computer memory accessibly coupled to said computer of said computer system comprised of,

a program code segment supporting creating a hierarchical filter comprised of a hierarchical filter entry for each profile request in said profile request collection; and

5 a program code segment supporting filtering using said hierarchical filter processing said transaction database to provide a profile summary based upon a profile request in said profile request collection.

39. A computer system as recited in Claim 38,

wherein each of said profile requests in said profile request collection includes a locale designator;

10 wherein said program code segment supporting creating said hierarchical filter comprised of said hierarchical filter entry for each profile request in said profile request collection is further comprised of

a program code segment supporting extracting a regulatory filter tree from a filter database for said locale designator of said profile request;

15 a program code segment supporting extracting a collection of user preference filters based upon said locale designator of said profile request; and

a program code segment supporting constructing said hierarchical filter entry from said regulatory filter tree and from said user preference filter
20 collection.

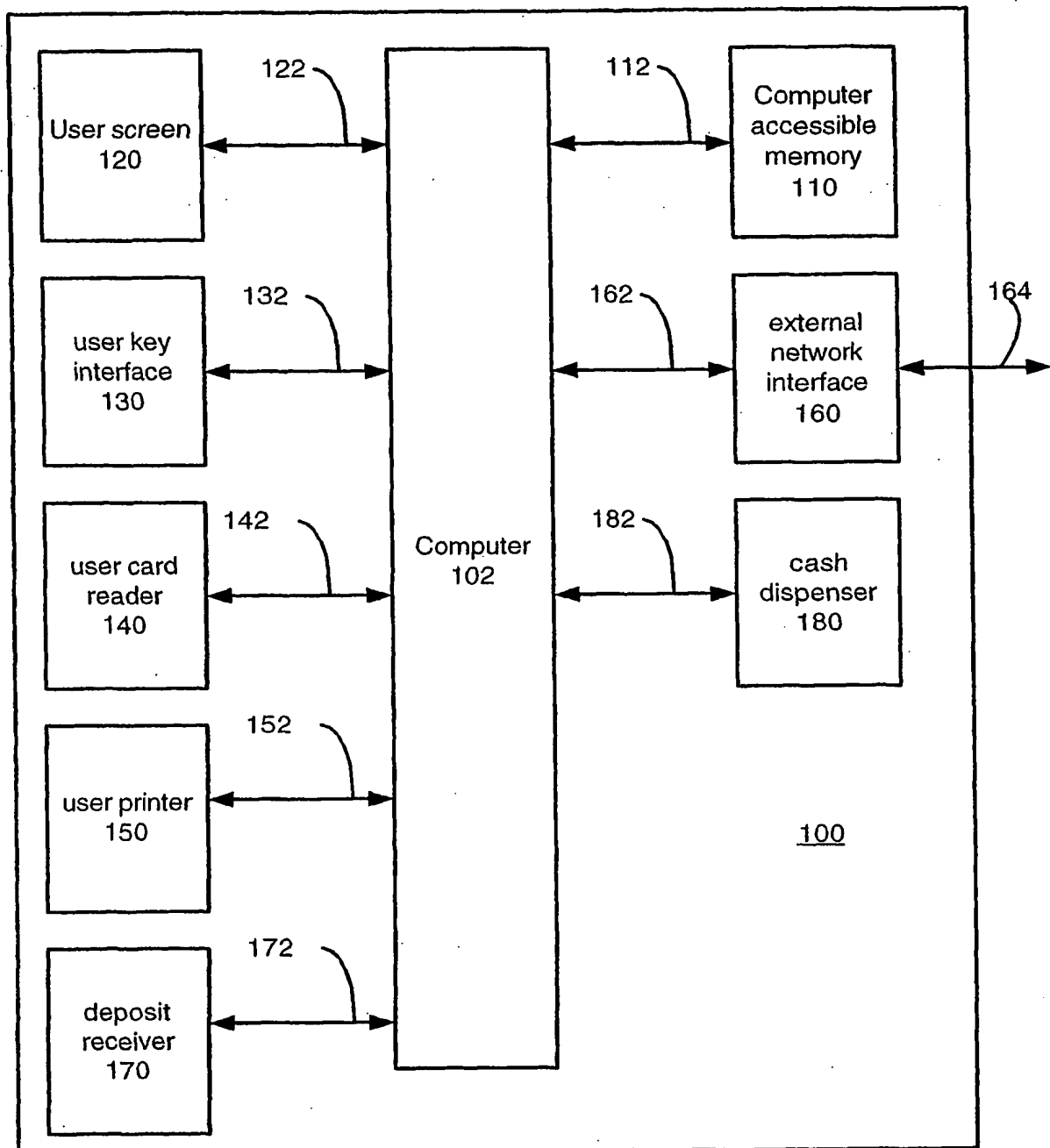


Fig. 1 Prior Art

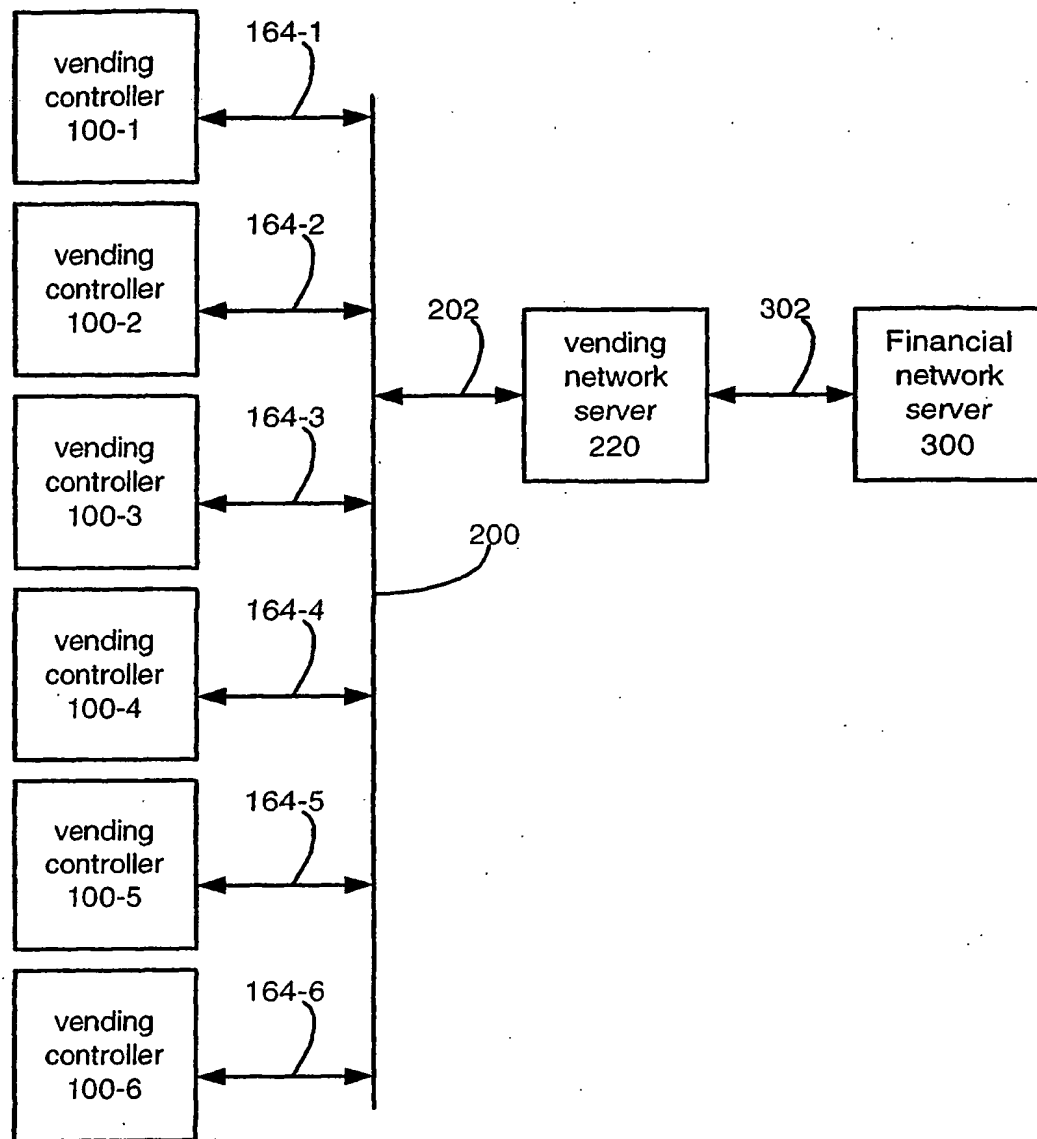


Fig. 2
Prior Art

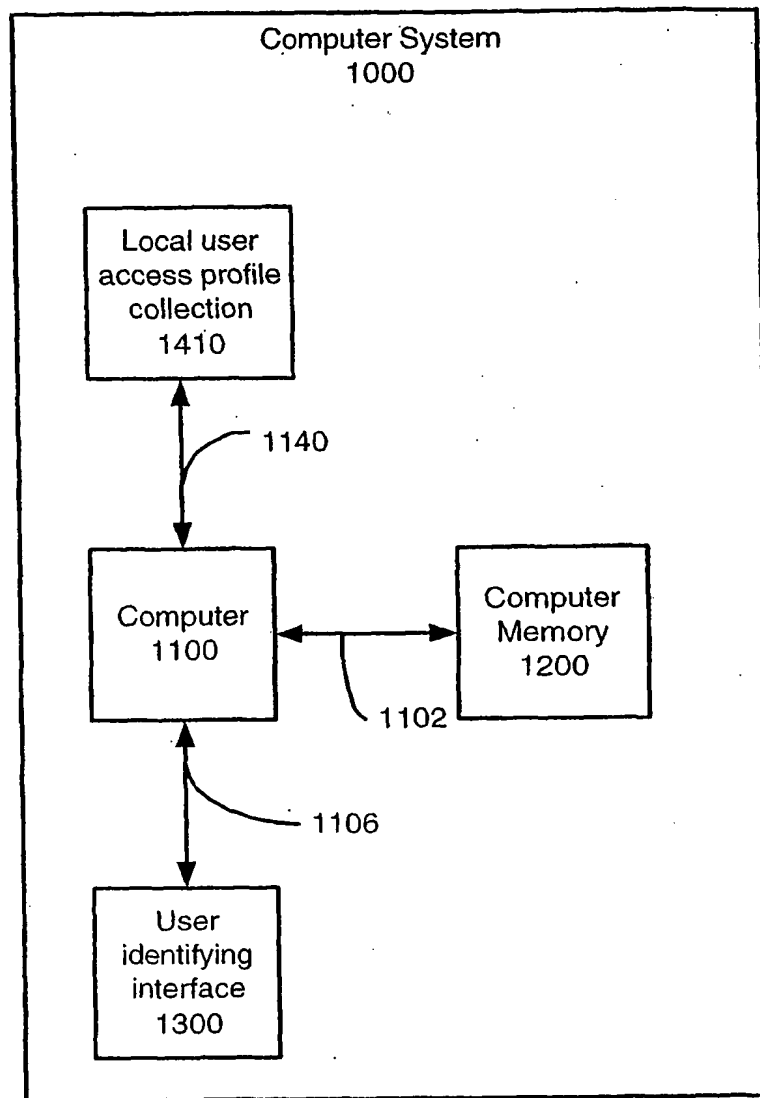


Fig. 4

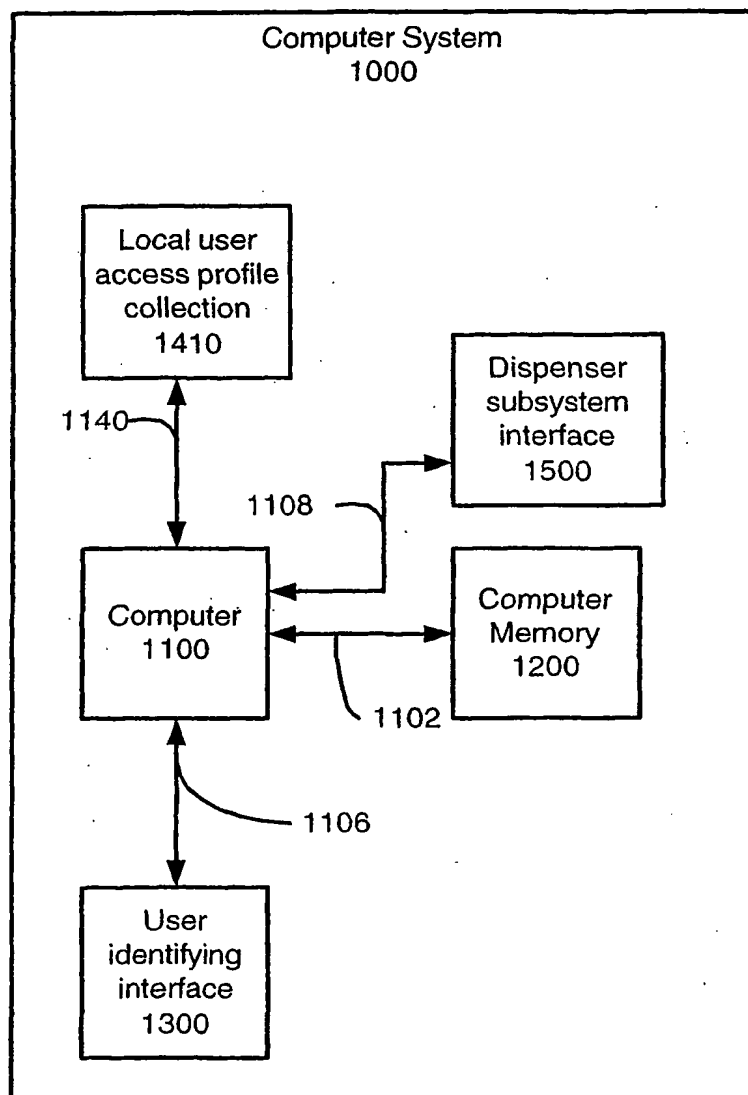


Fig. 5

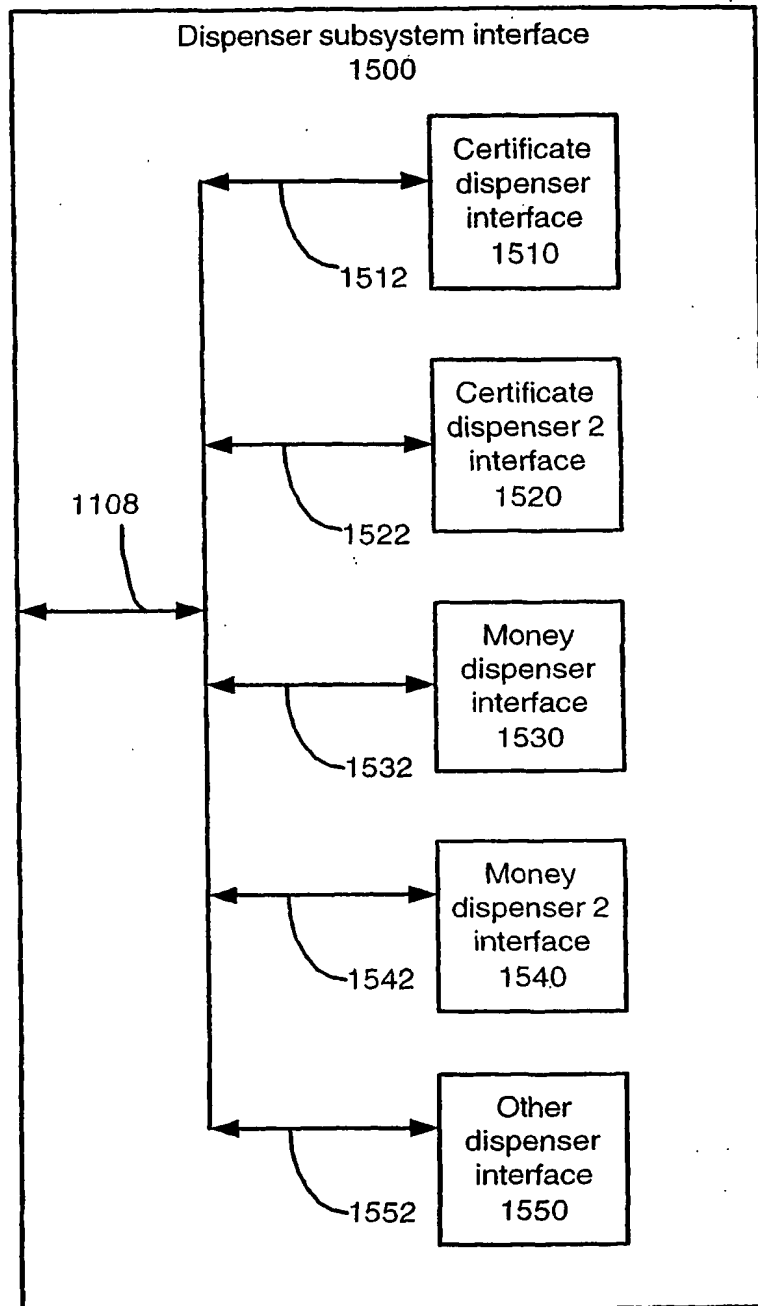


Fig. 6

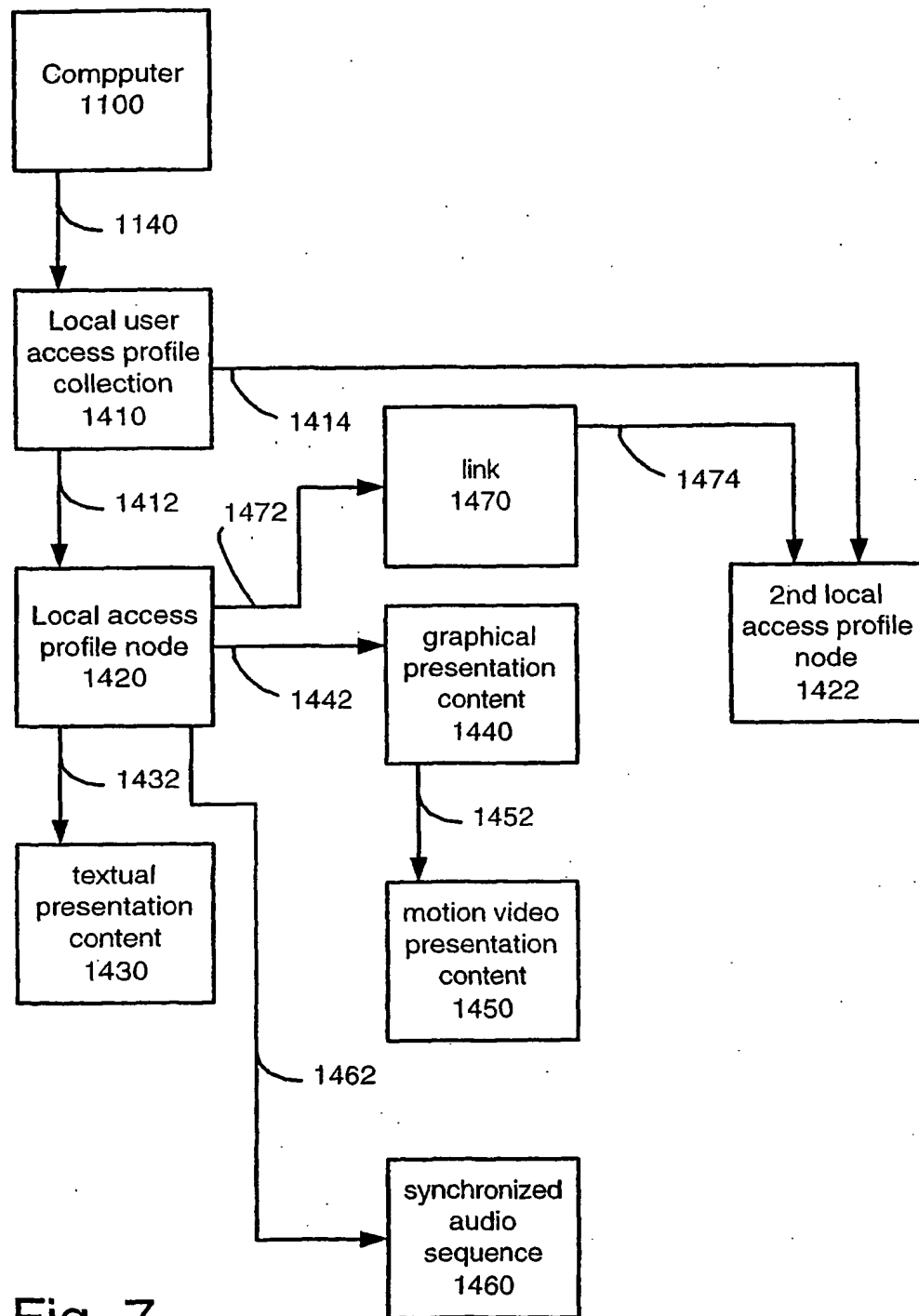


Fig. 7

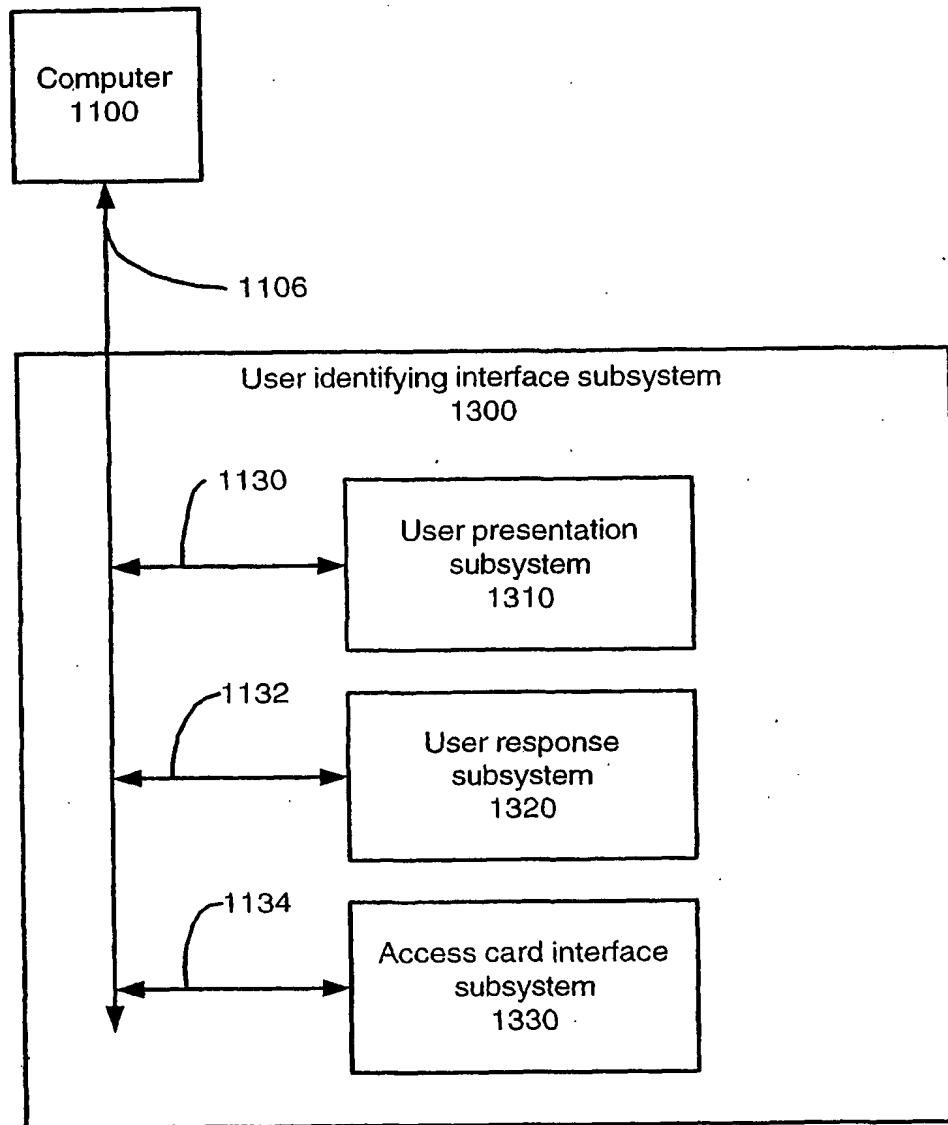


Fig. 9

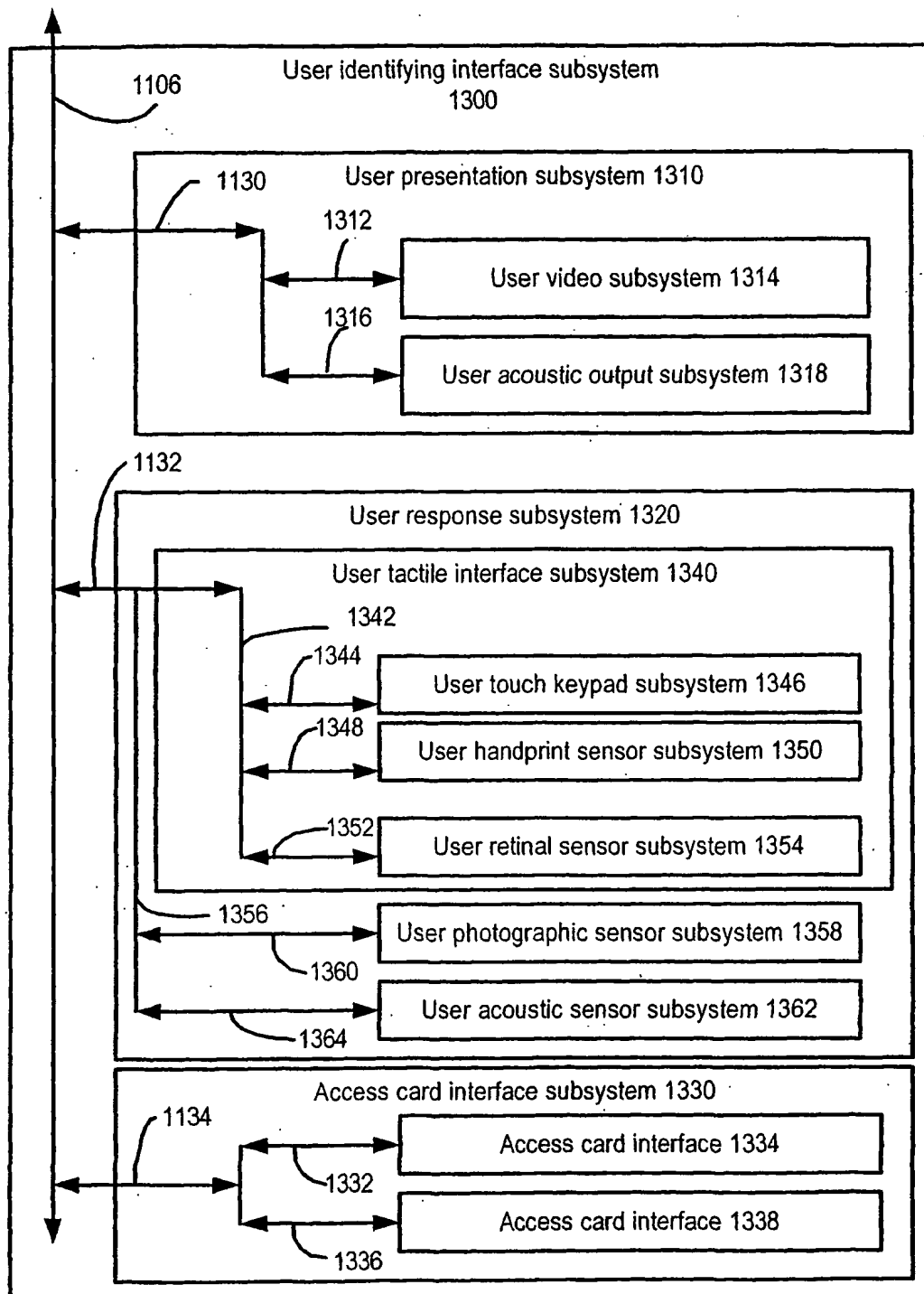


Fig. 10

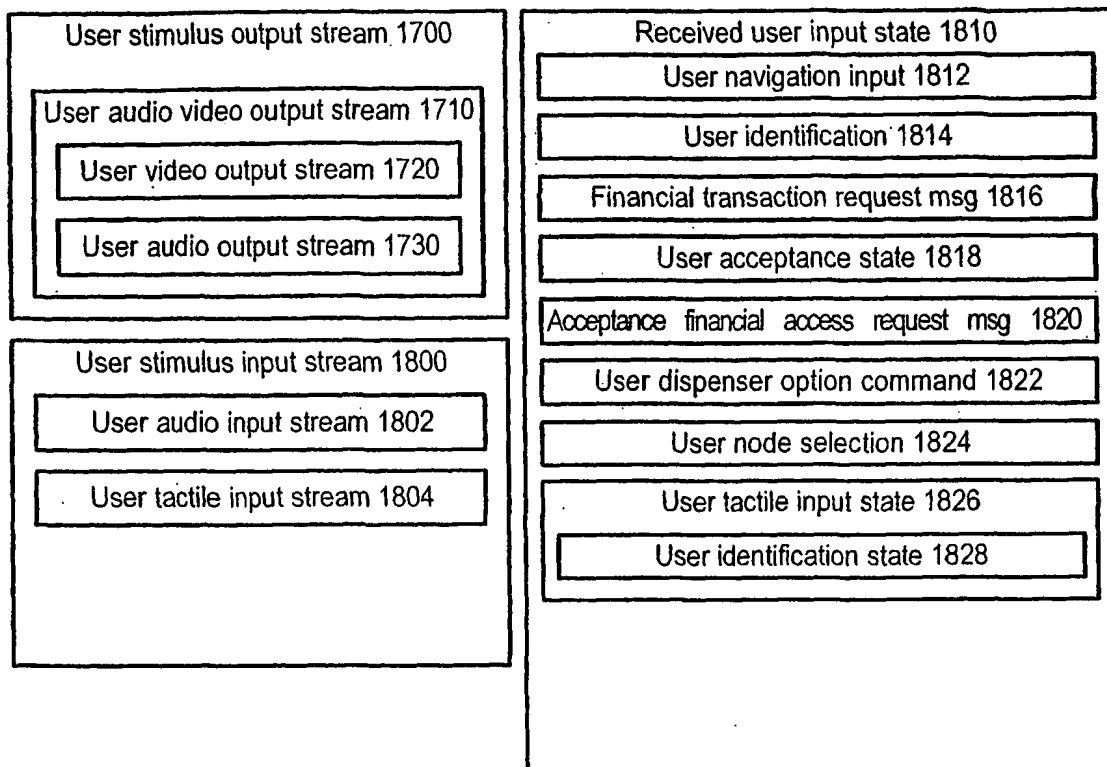


Fig. 11

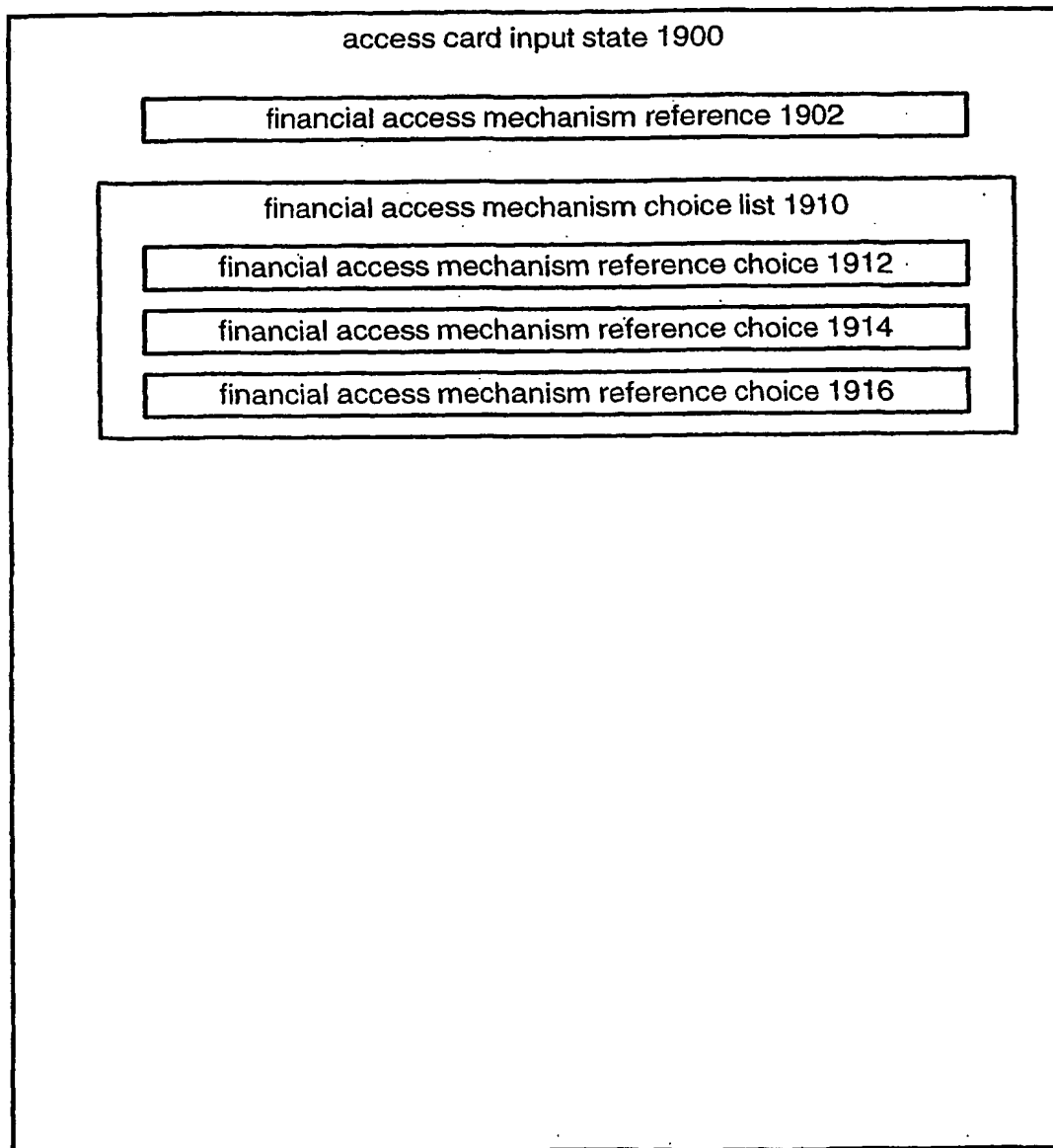


Fig. 12

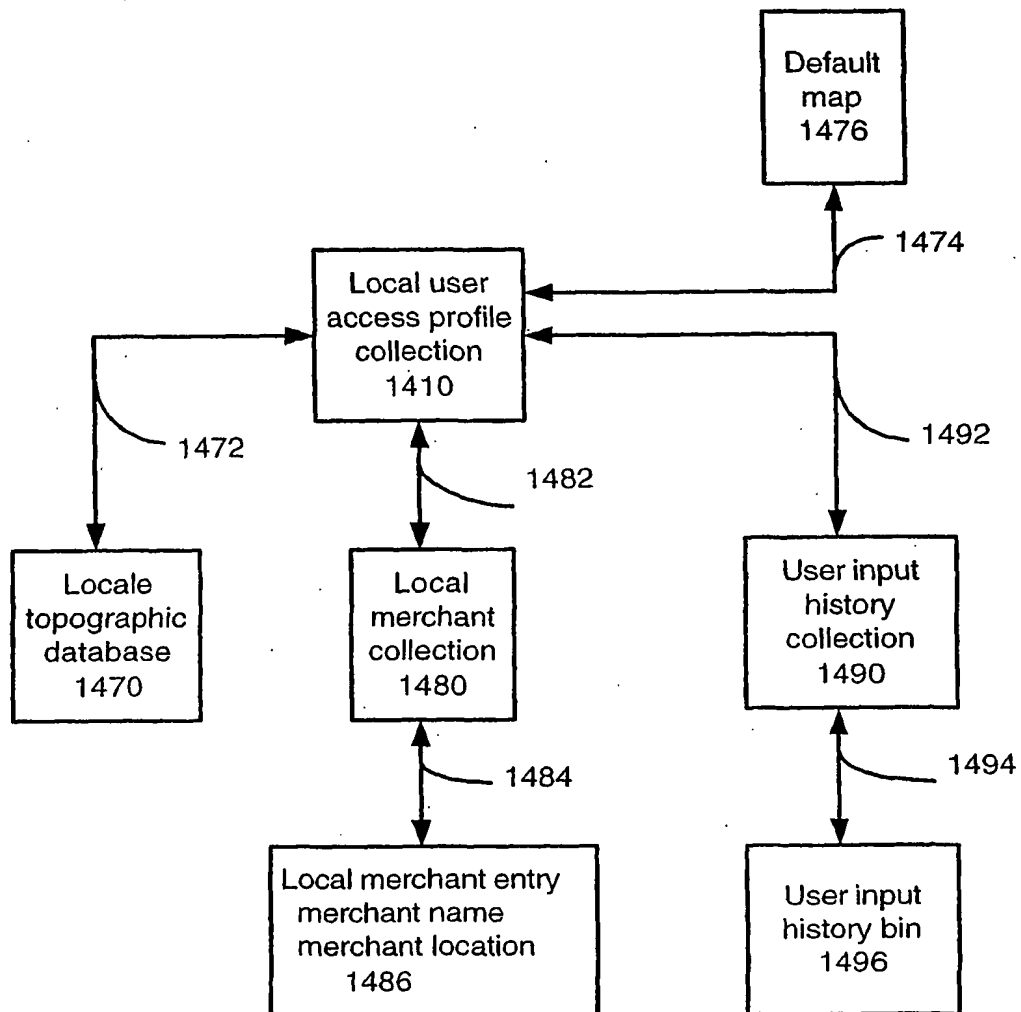


Fig. 13

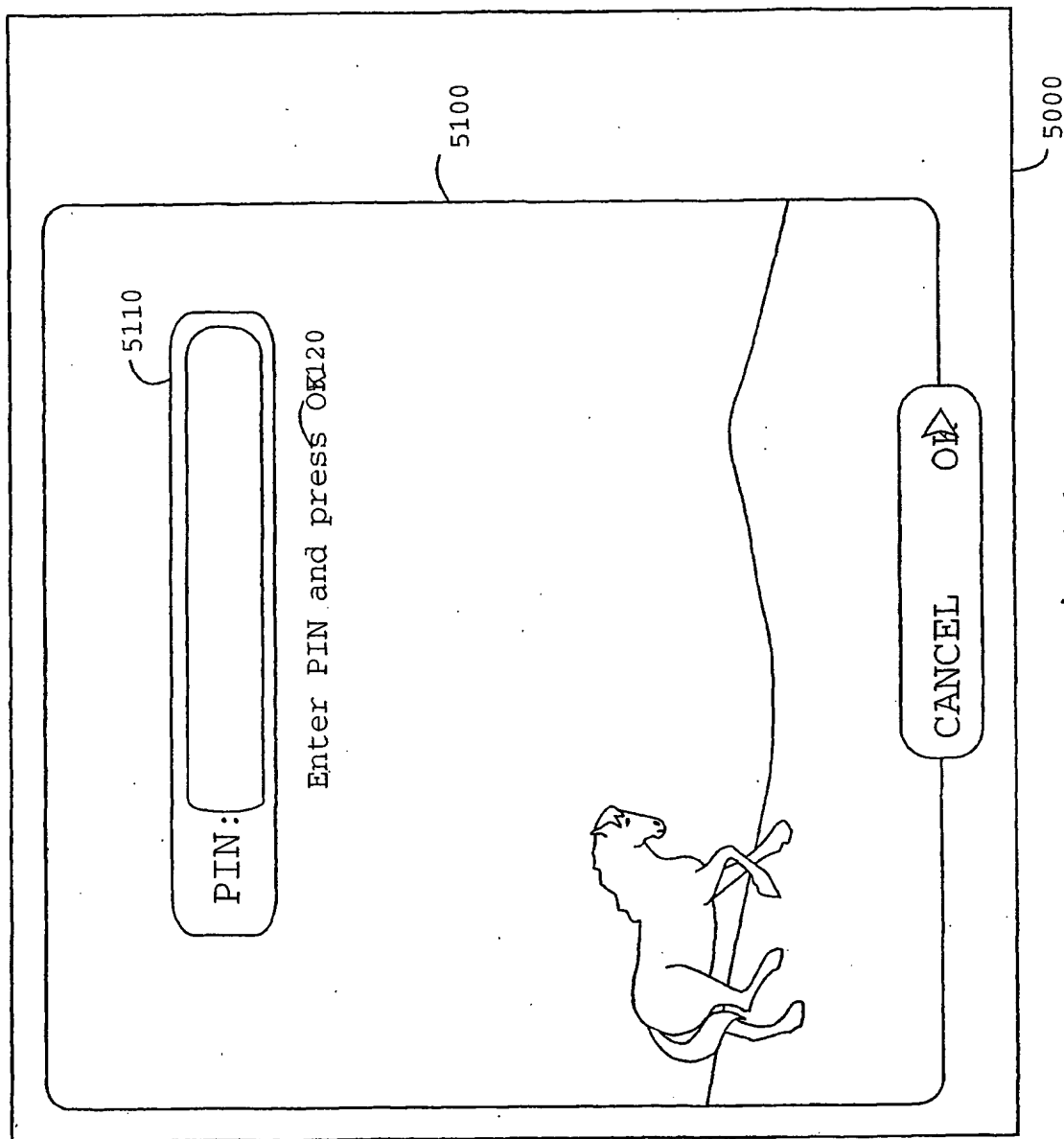


Fig 14

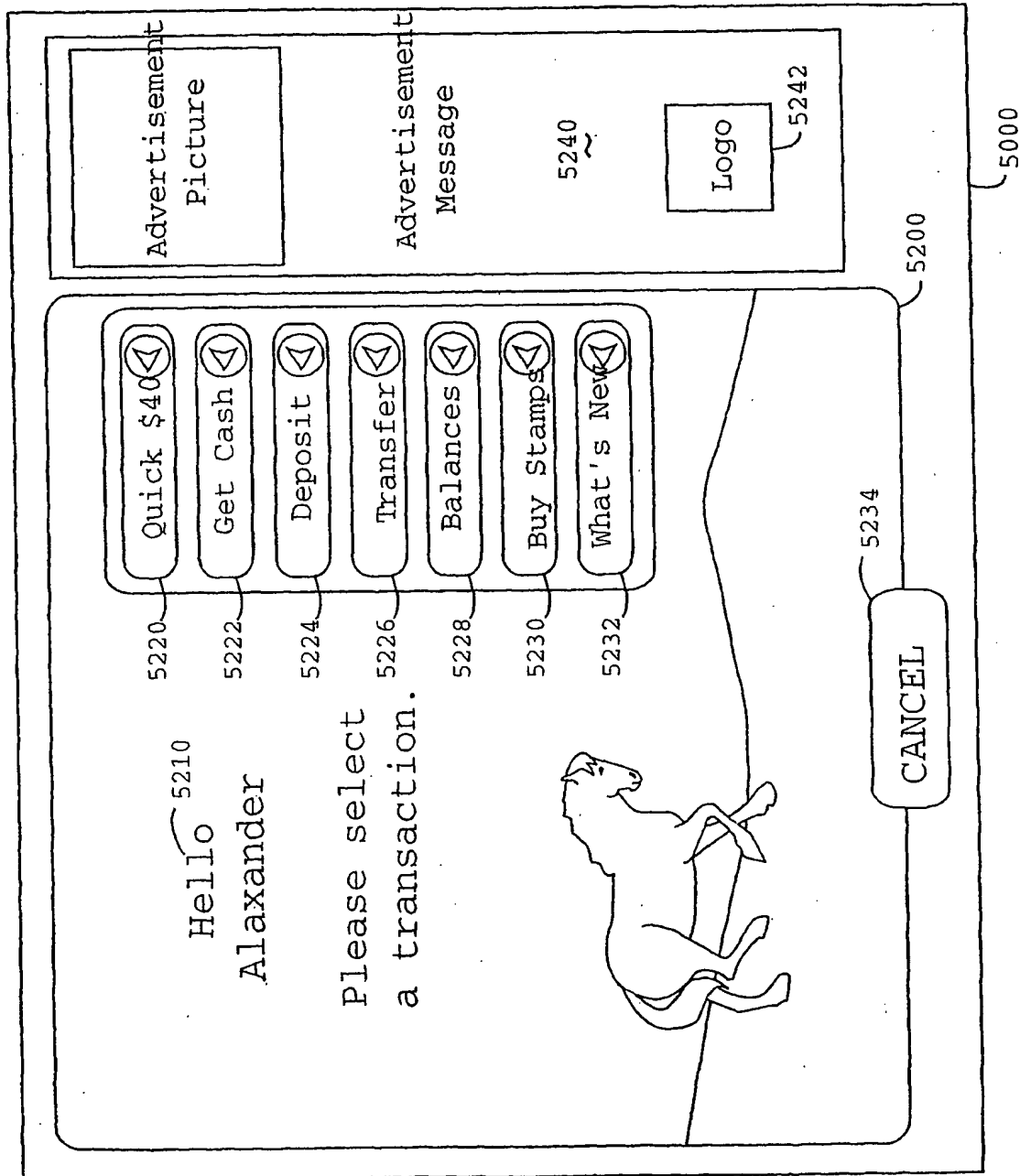


Fig 15

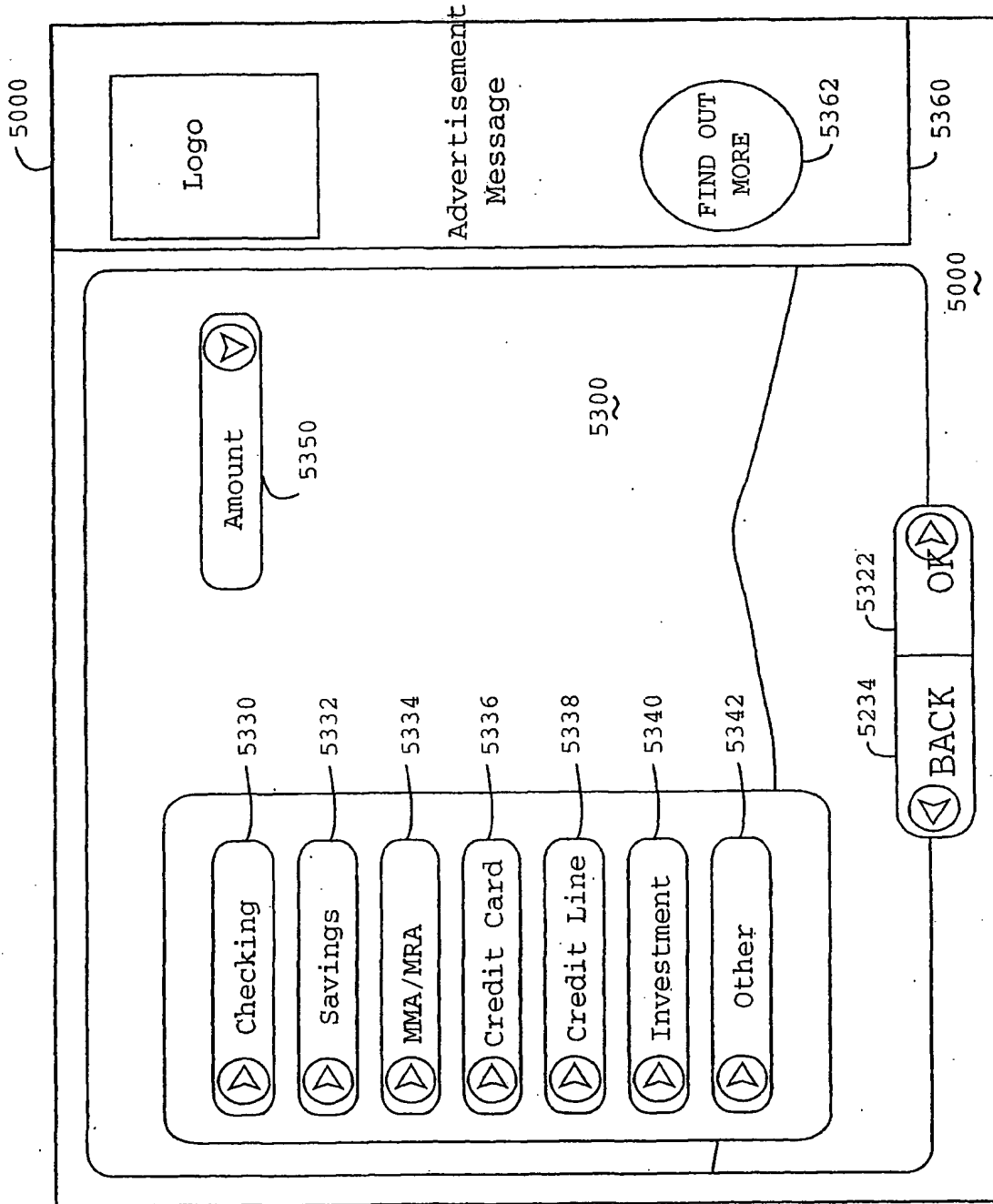


Fig16

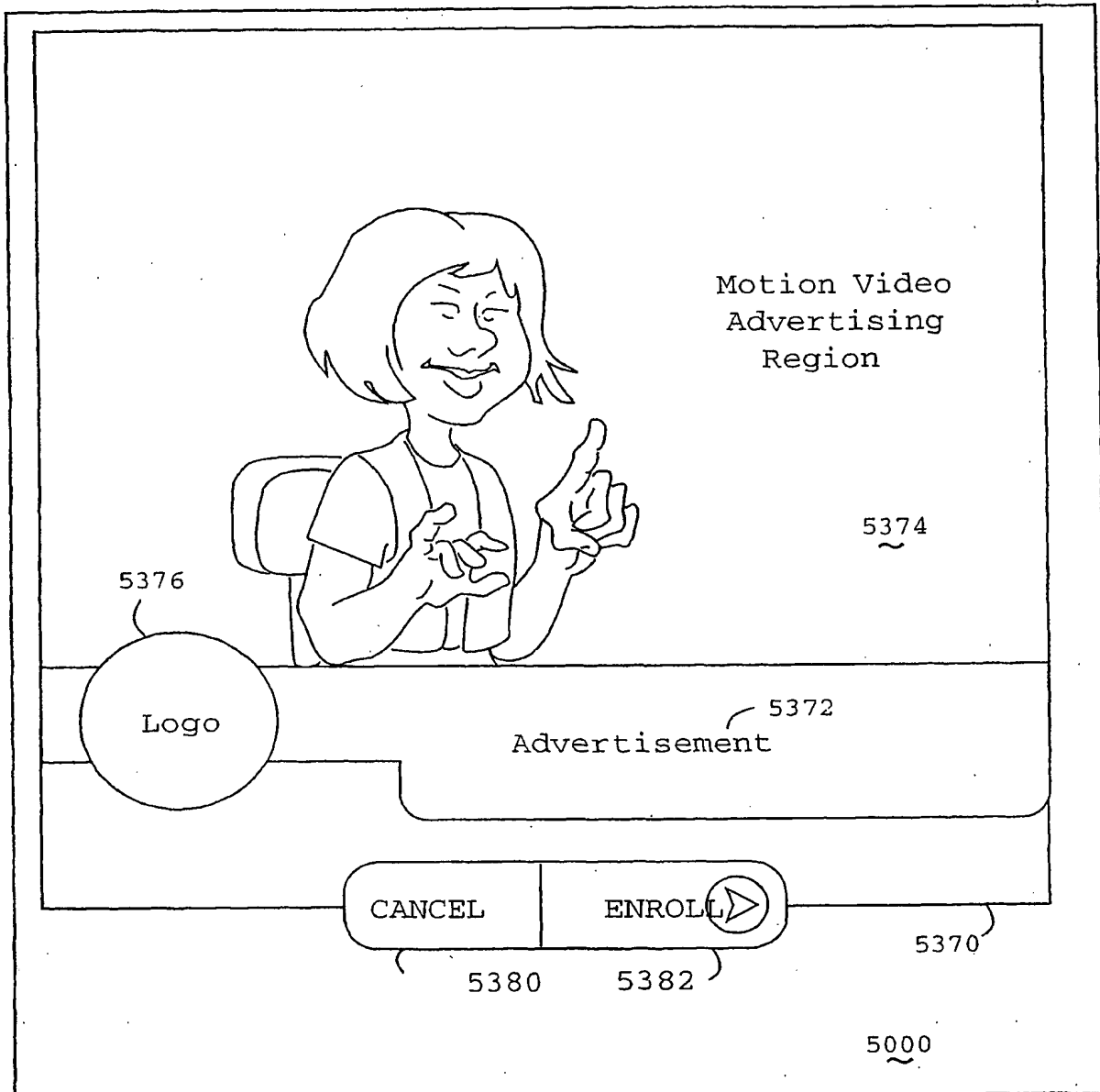


Fig17

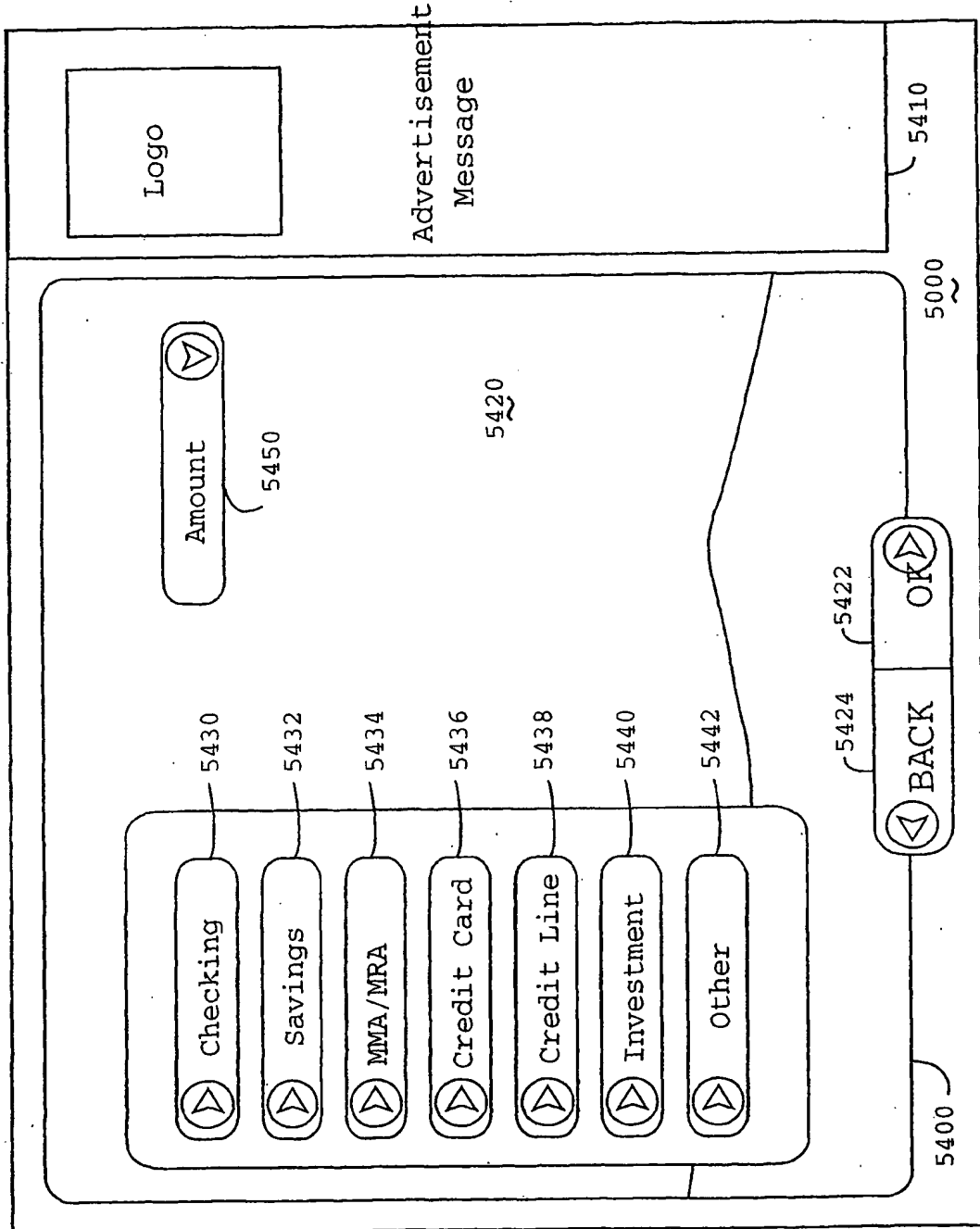


Fig 18

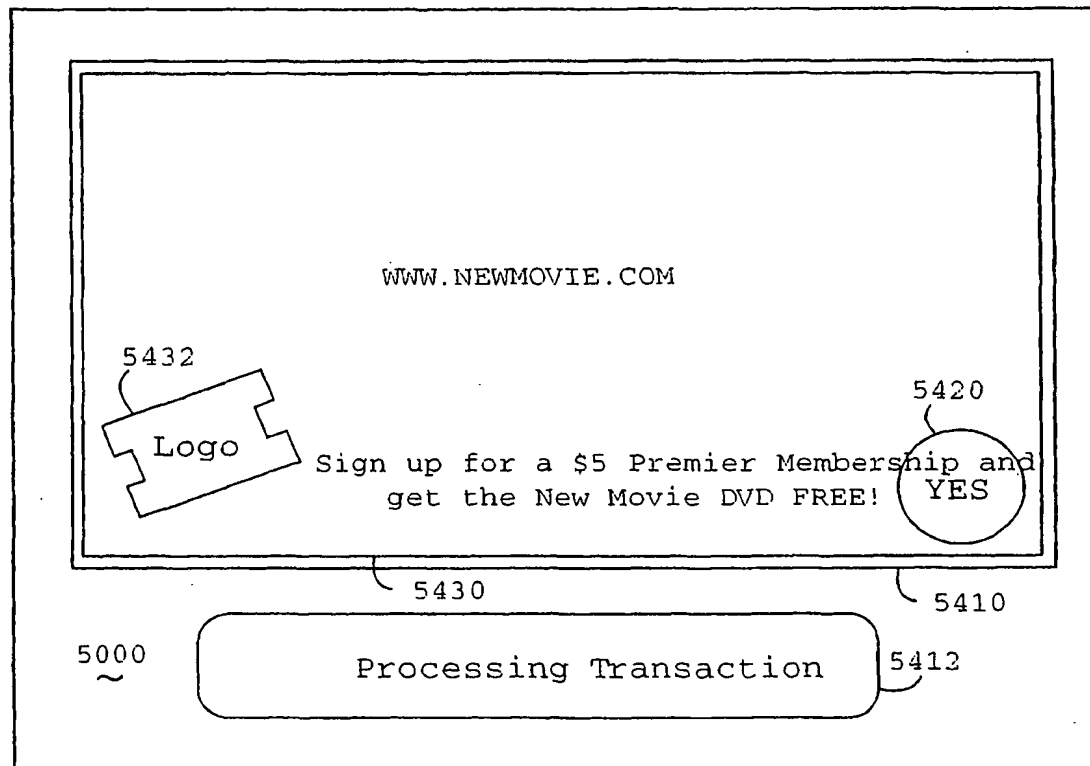


Fig19

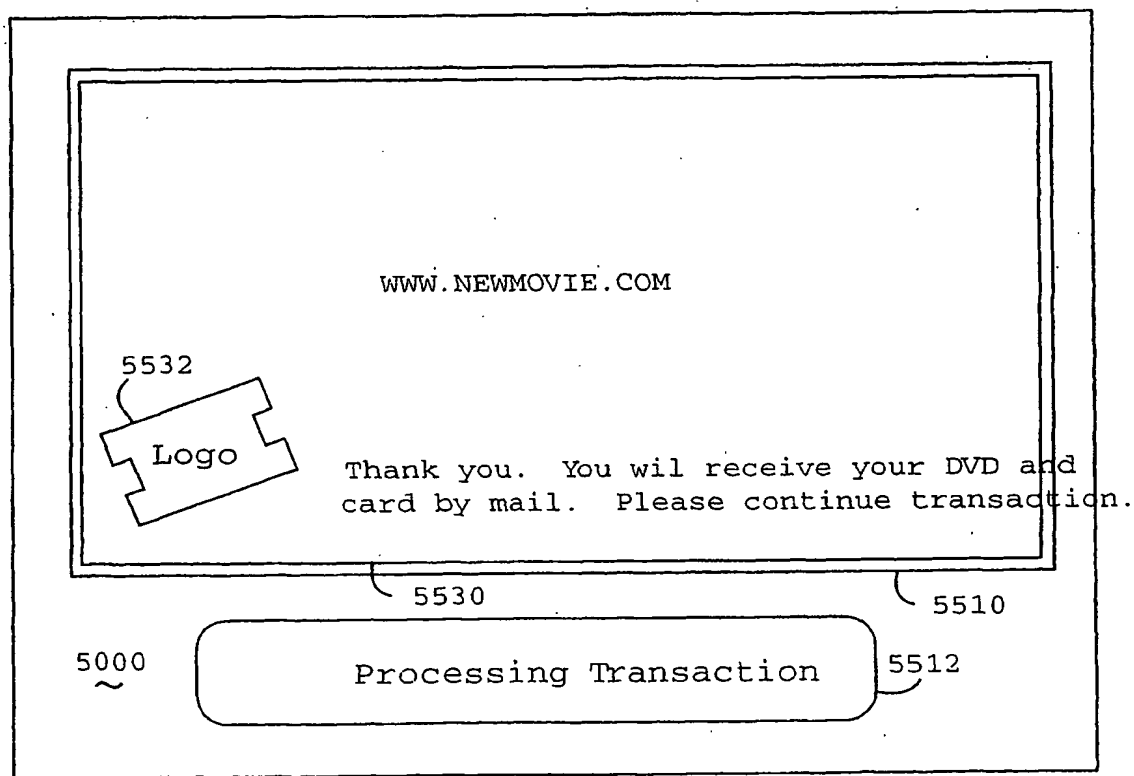


Fig20

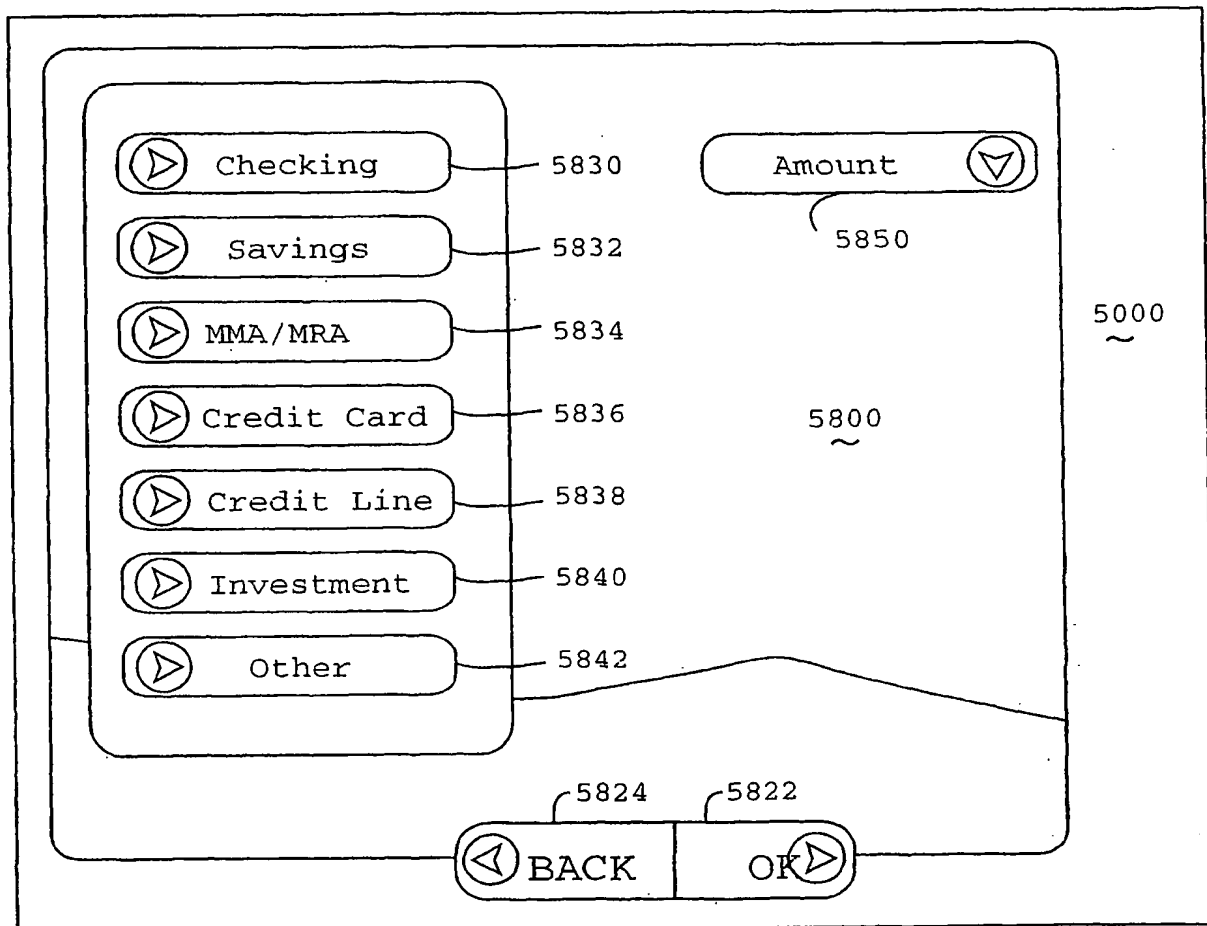


Fig21

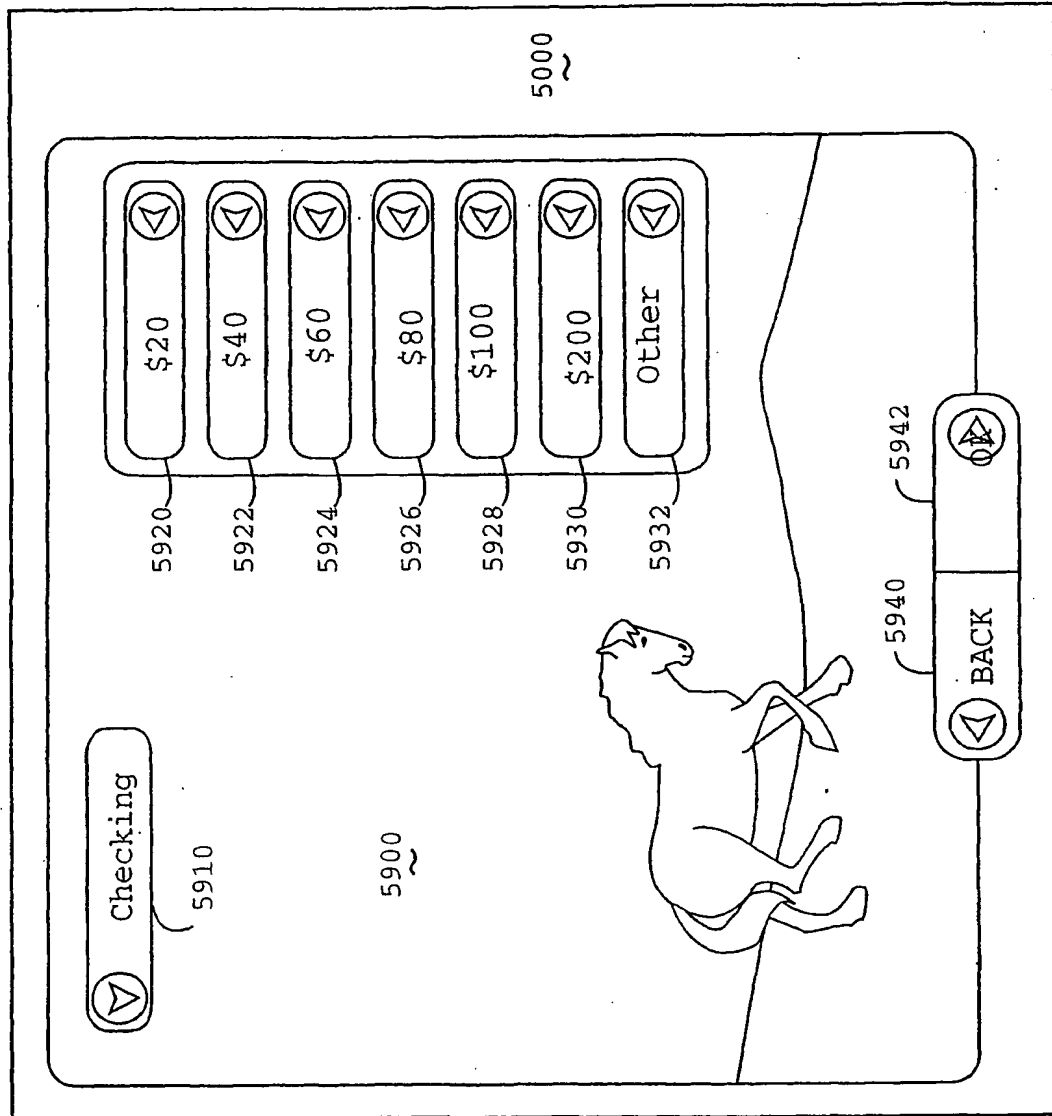
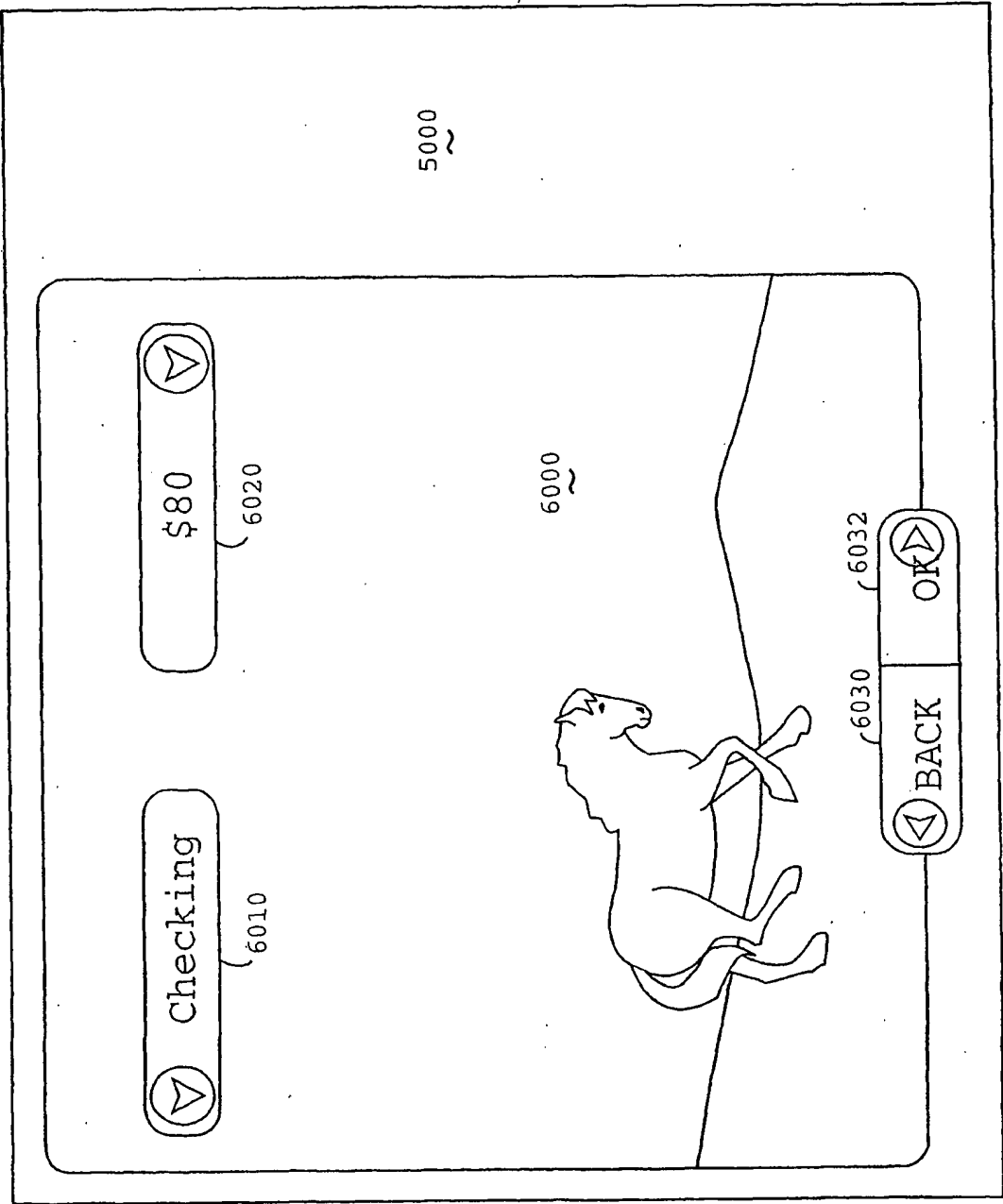


Fig22



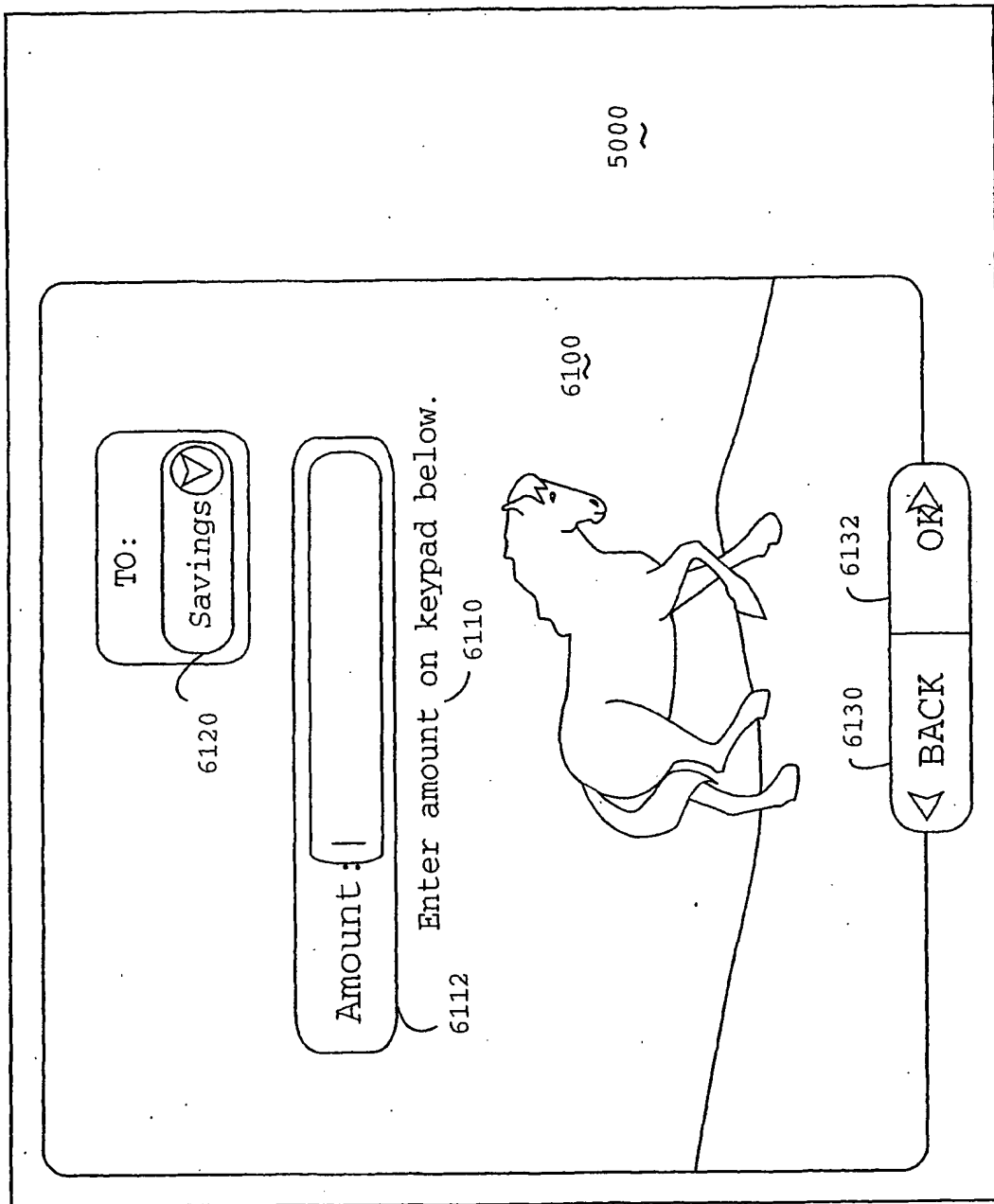


Fig24

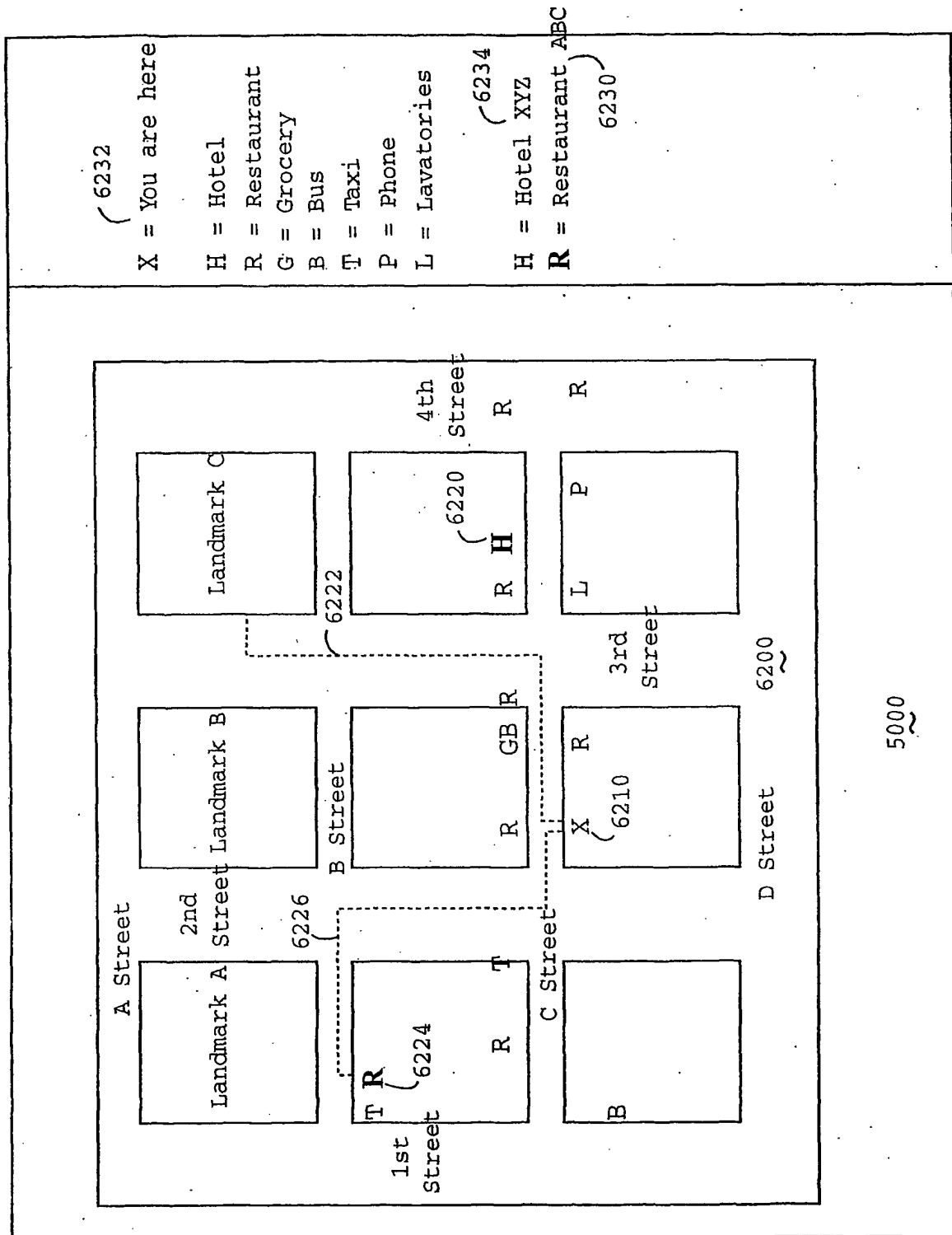


Fig25

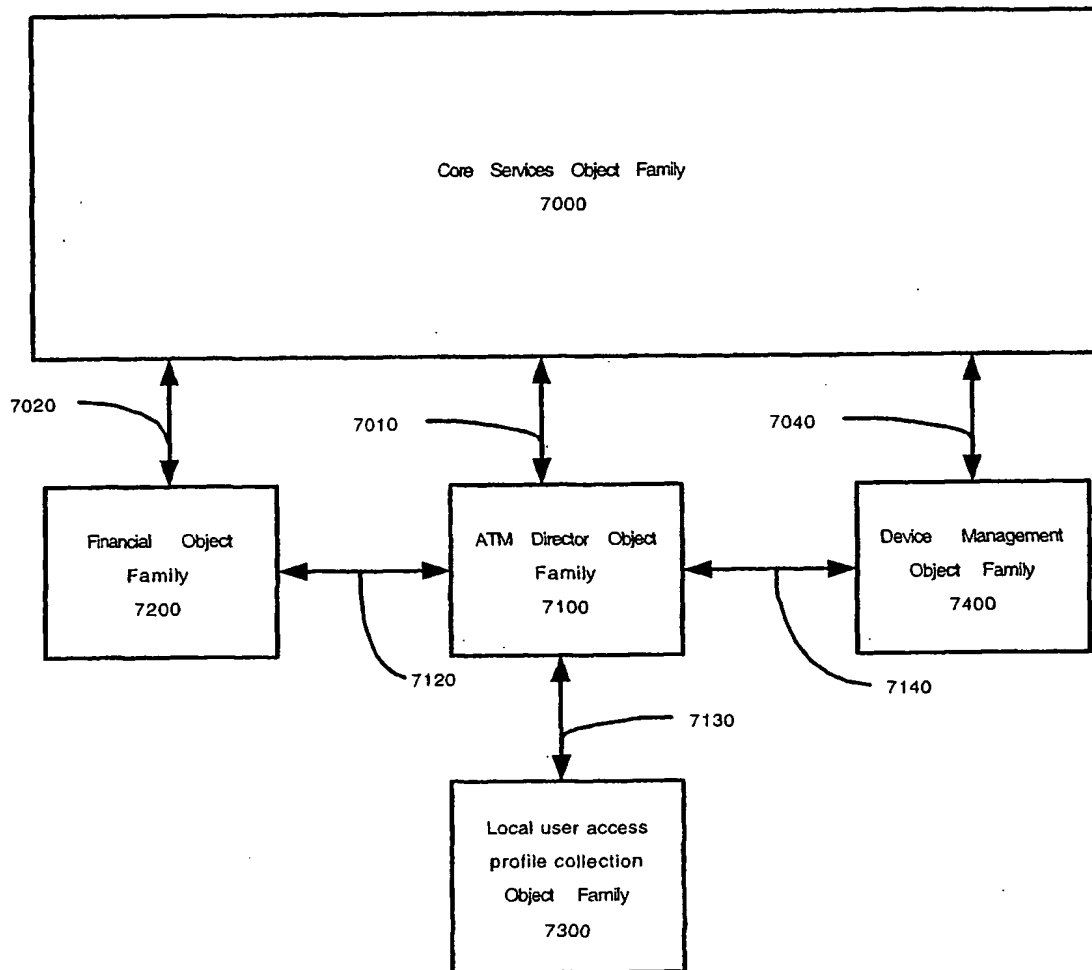


Fig. 26

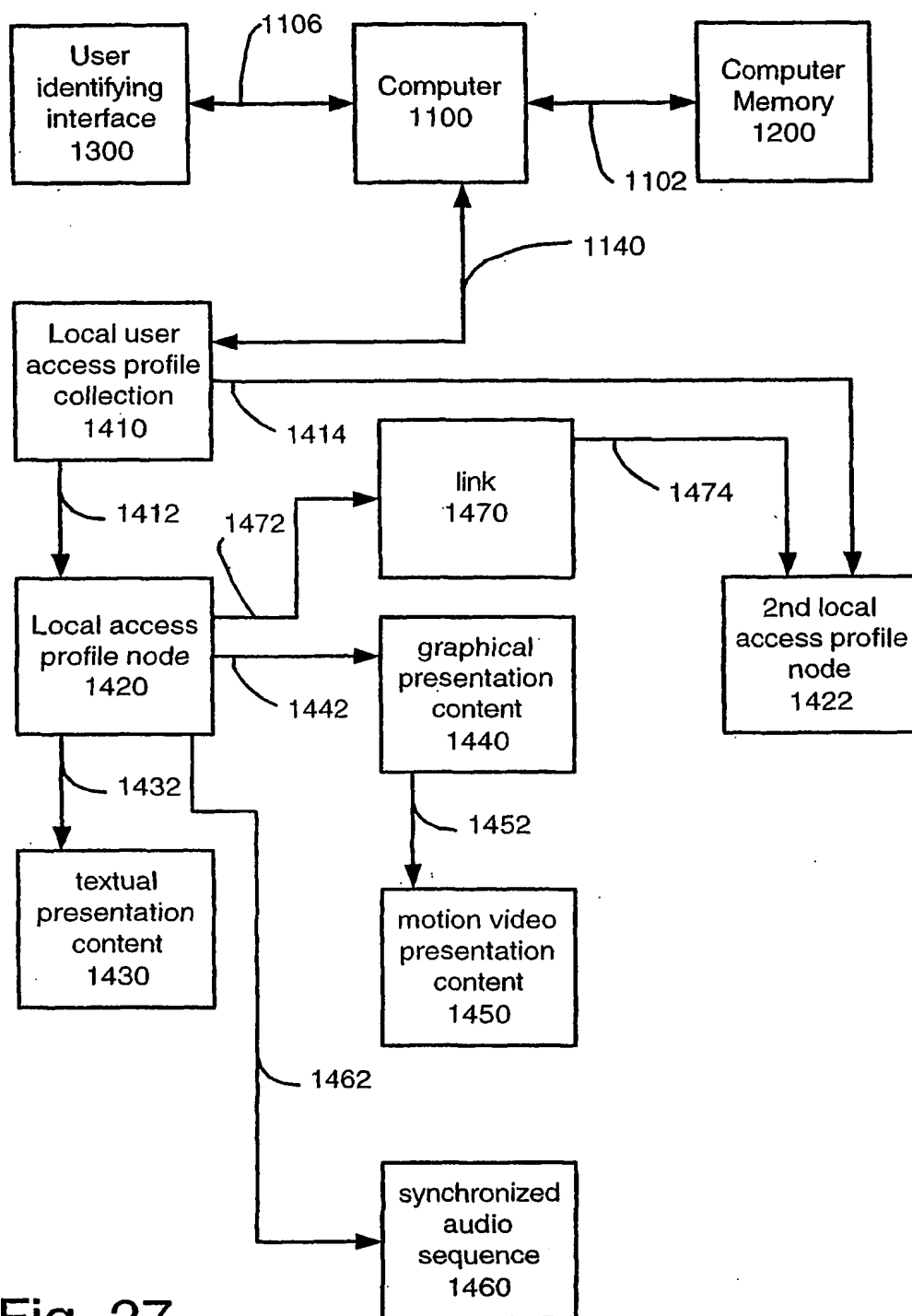


Fig. 27

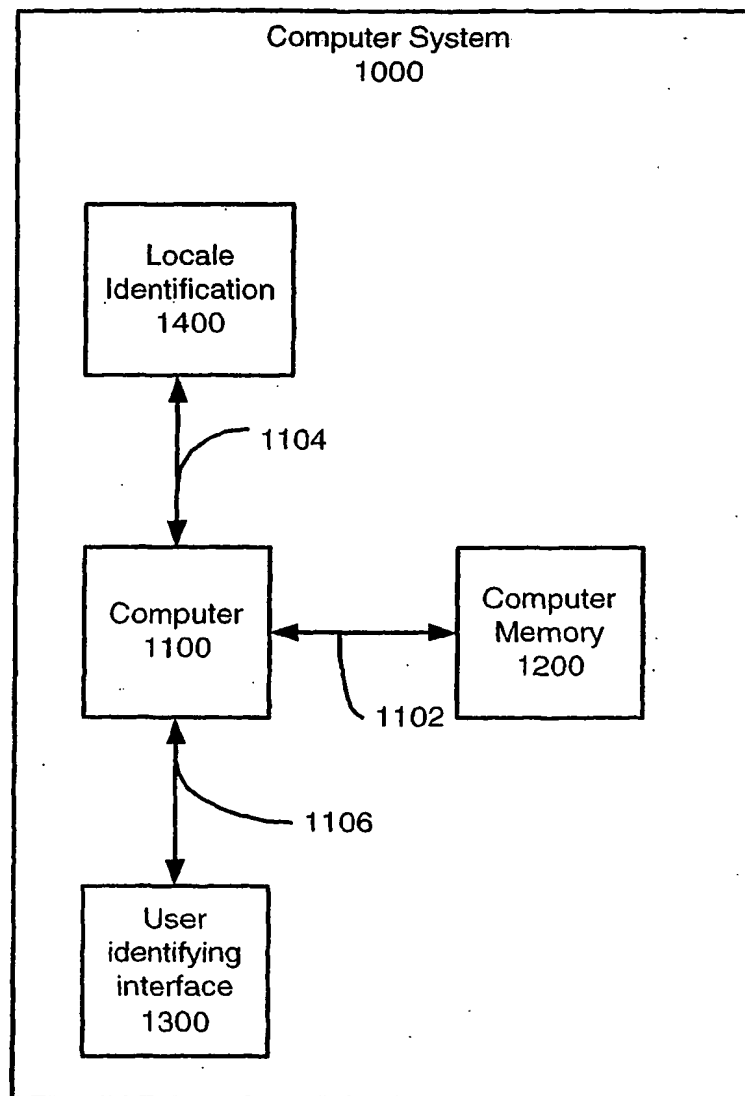


Fig. 28

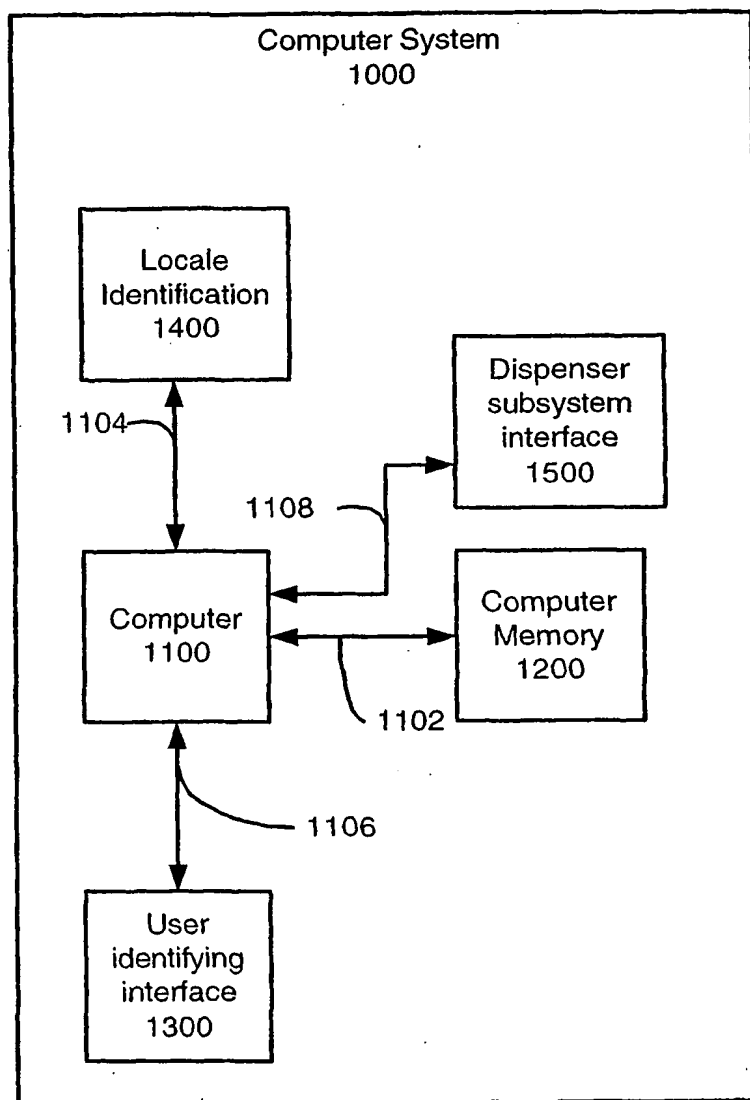


Fig. 29

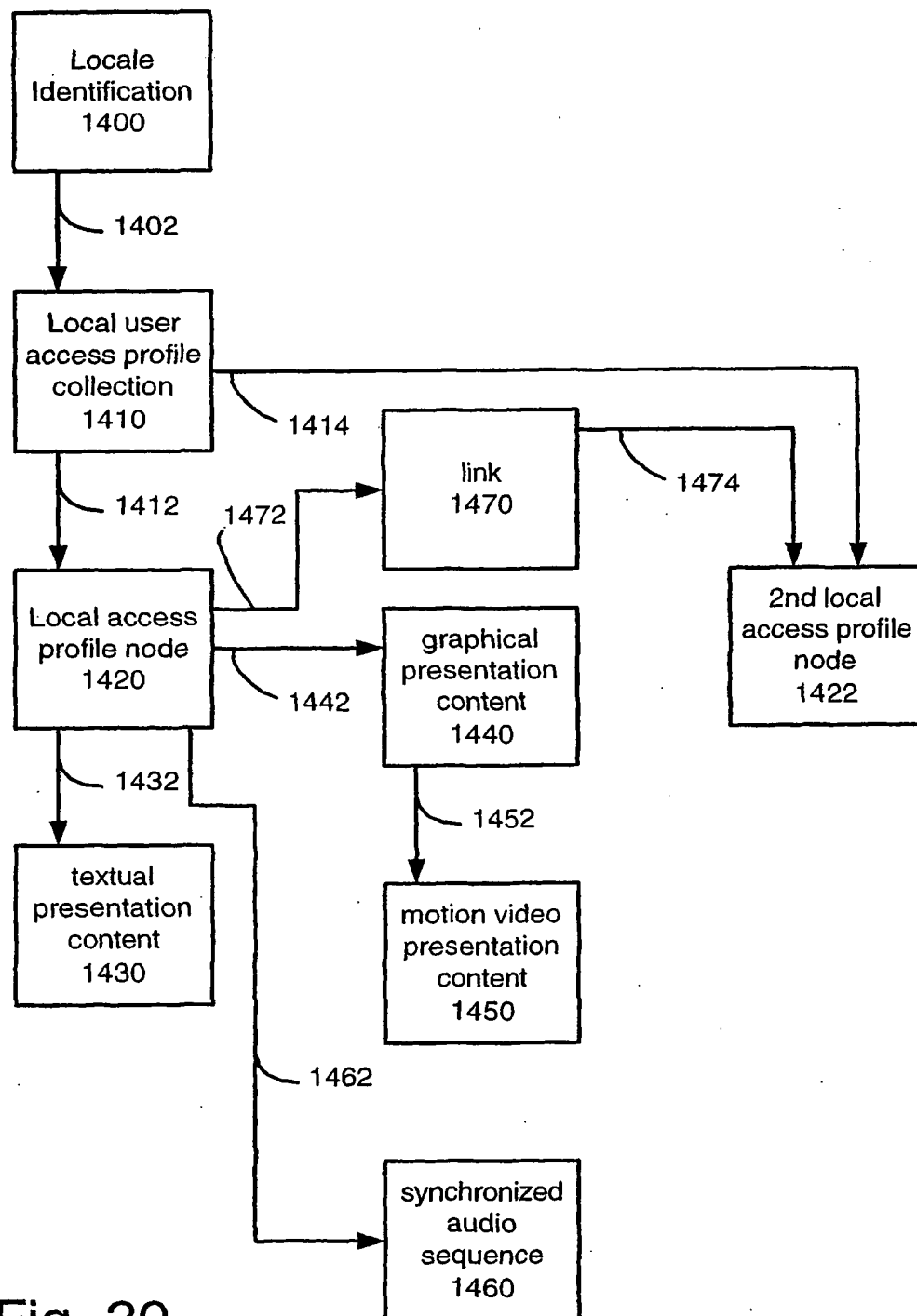
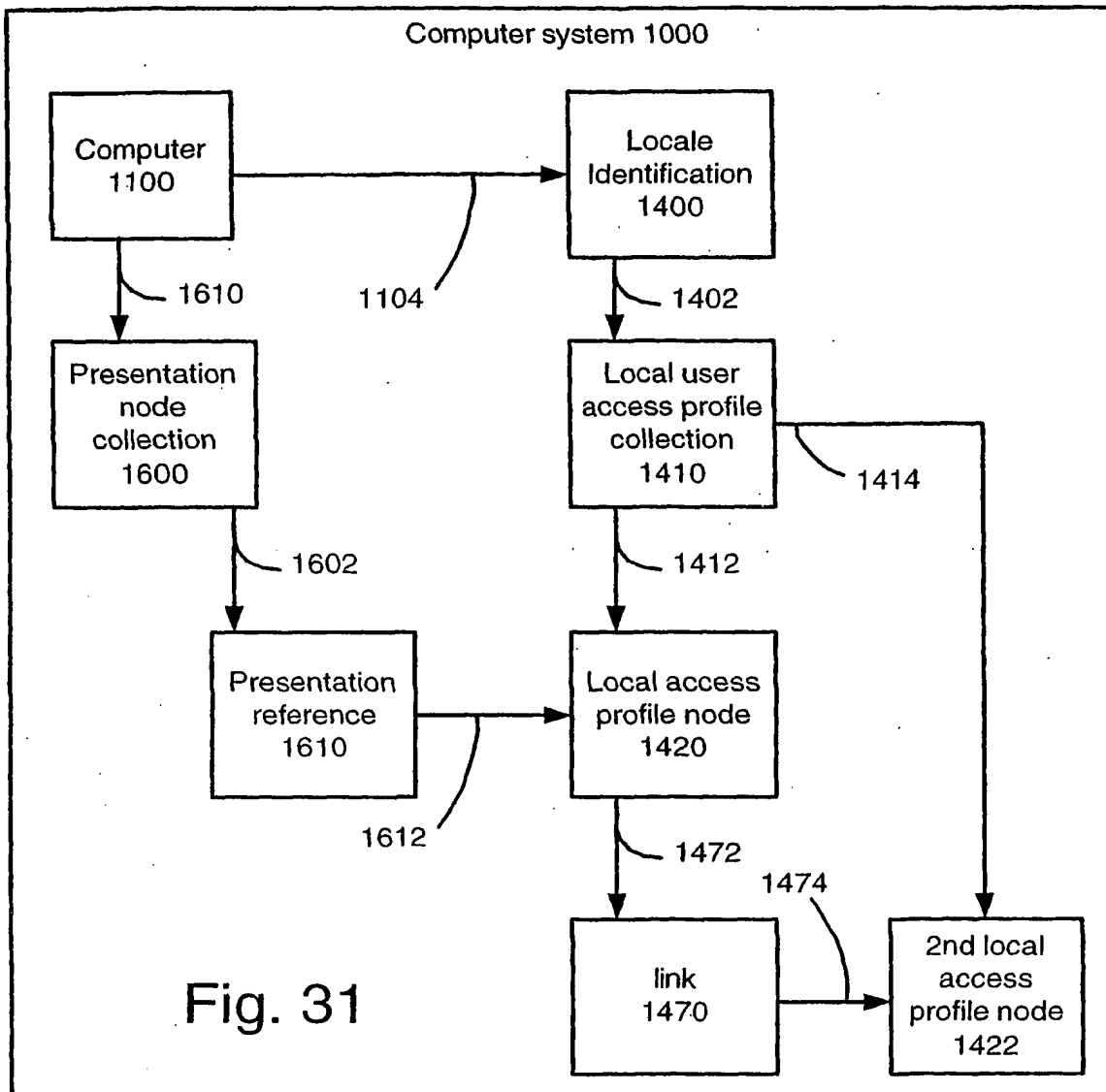


Fig. 30



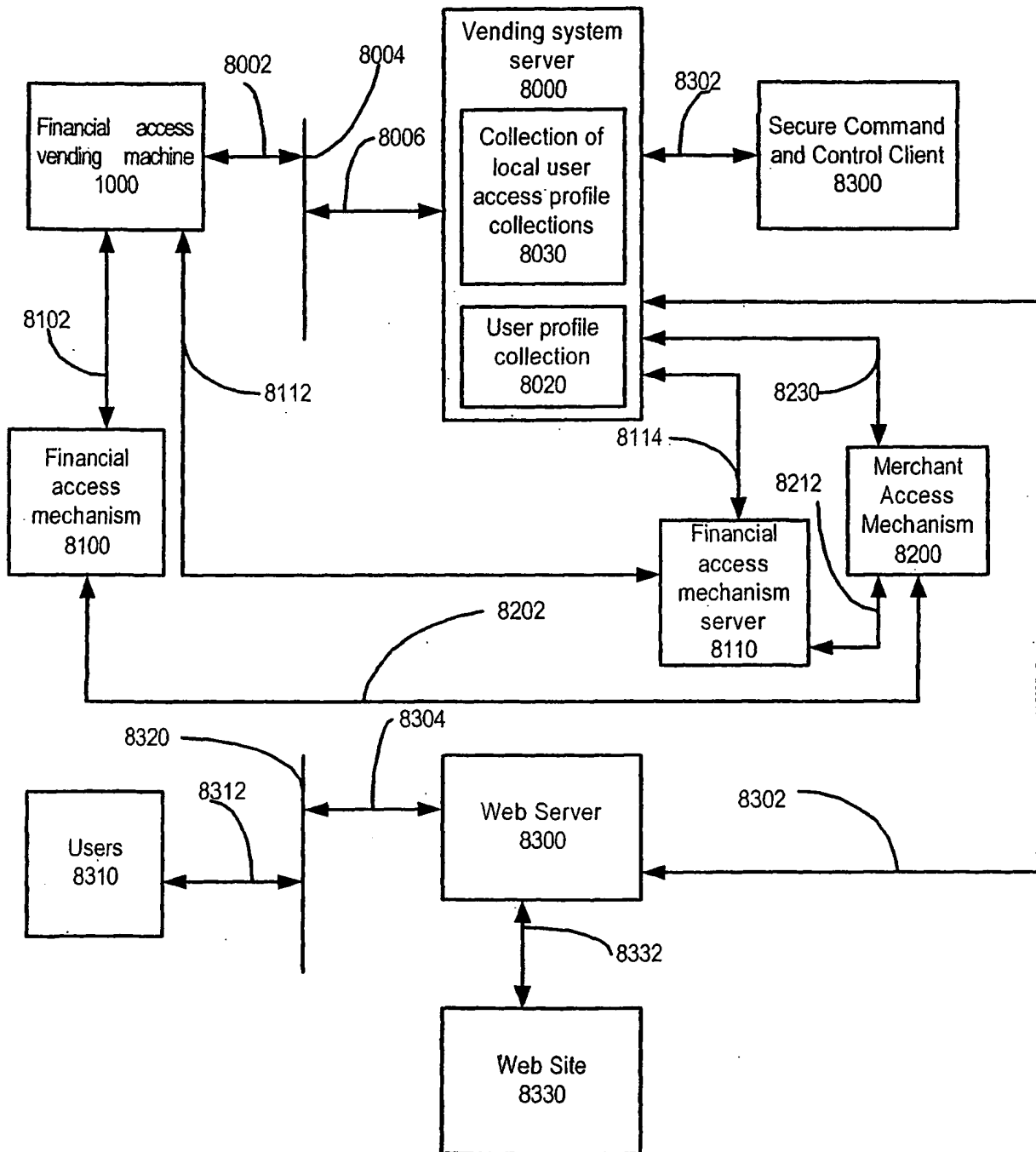


Fig. 32
ver. 2

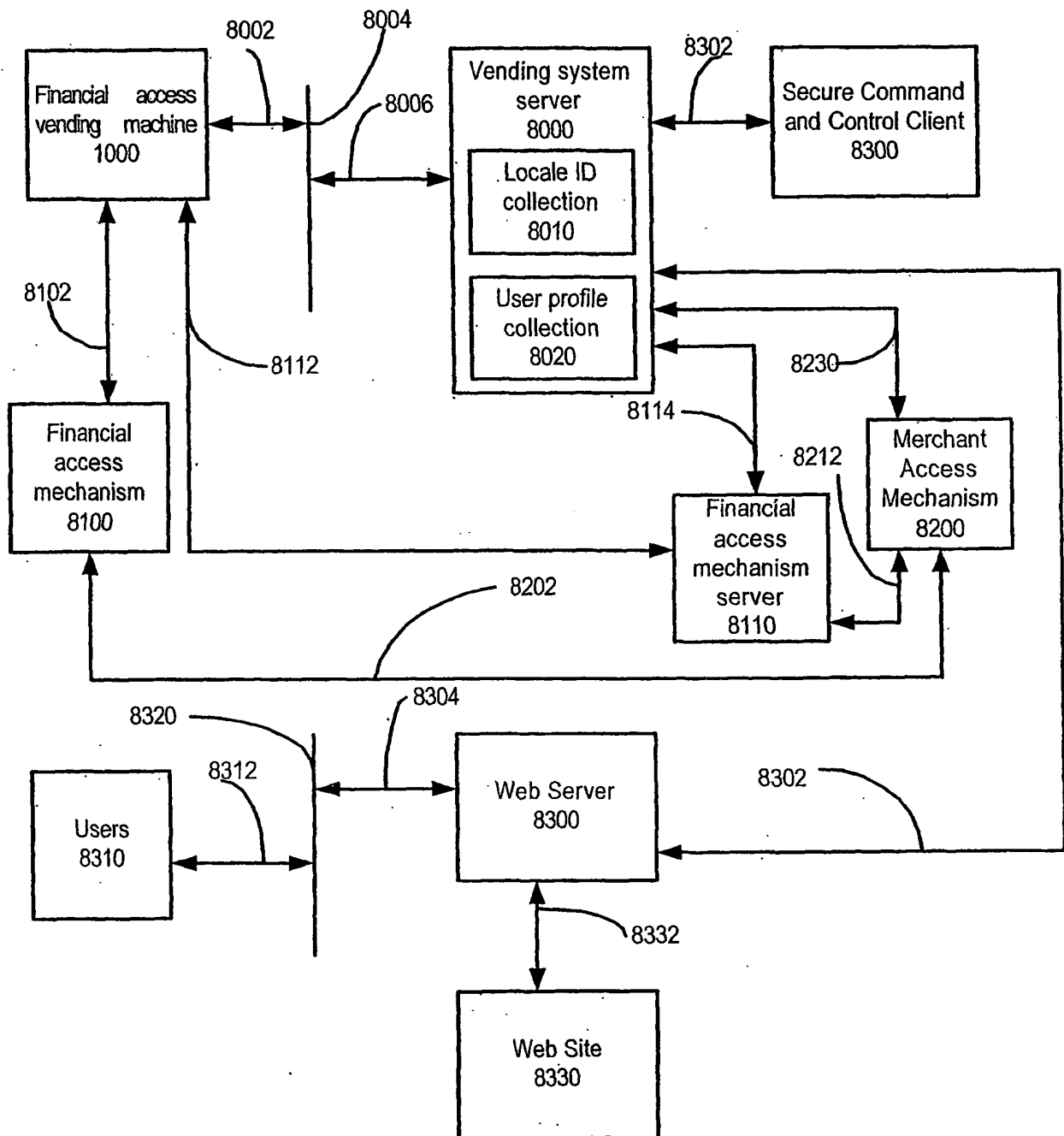


Fig. 33

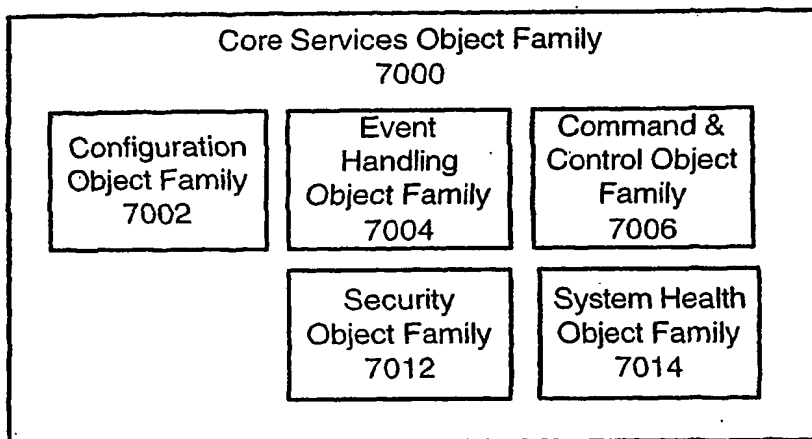


Fig. 34A

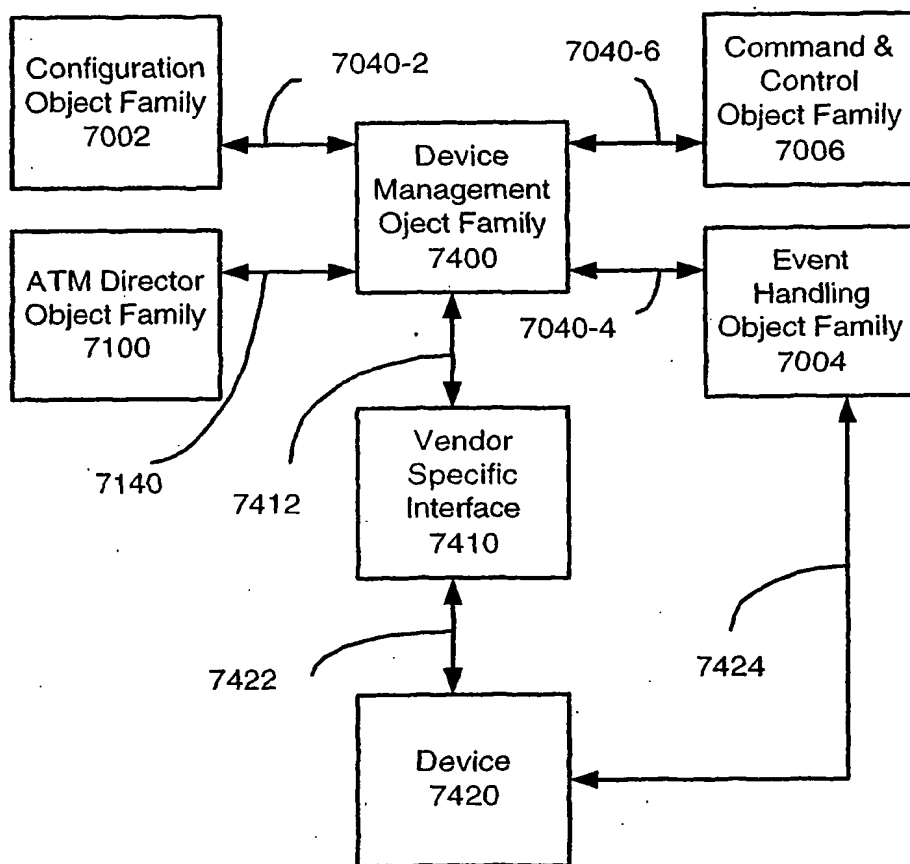


Fig. 34B

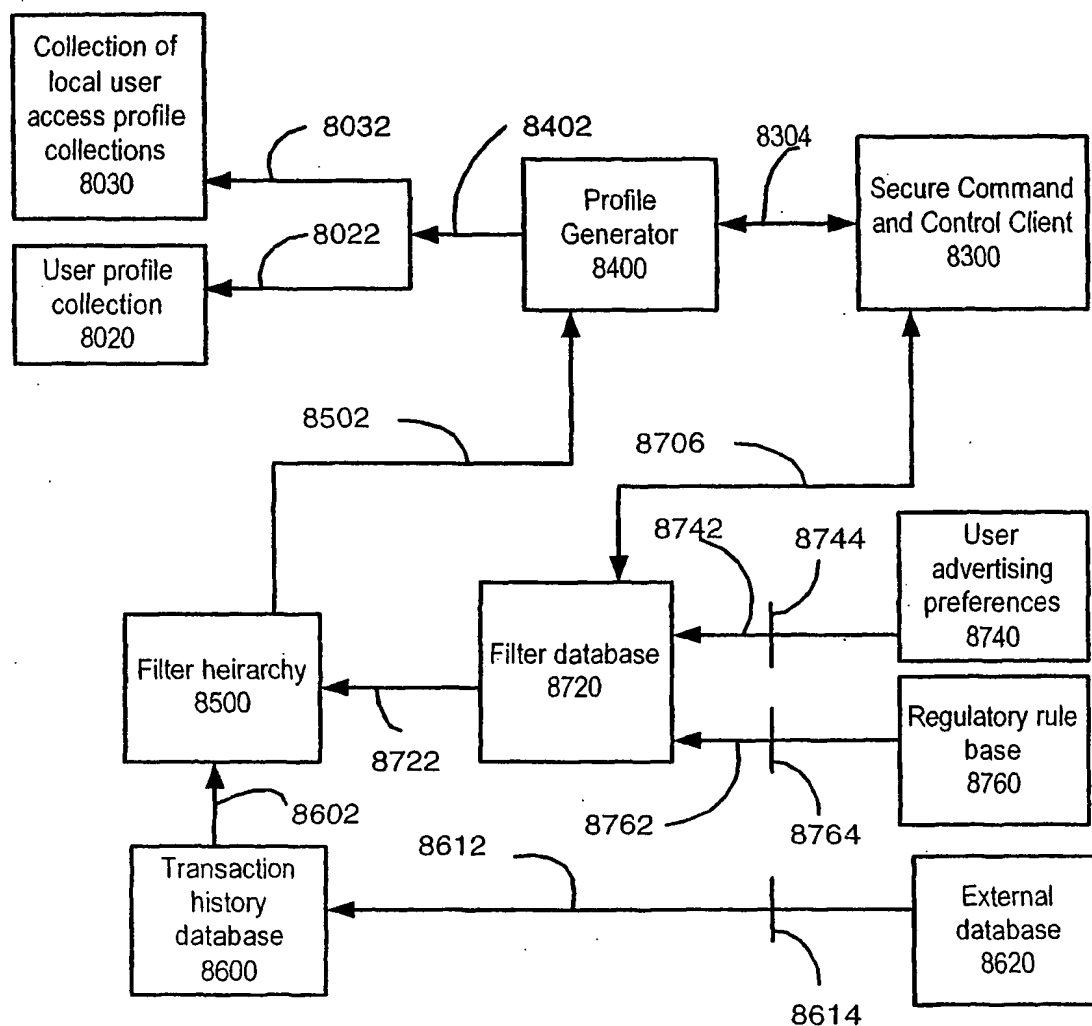


Fig. 35

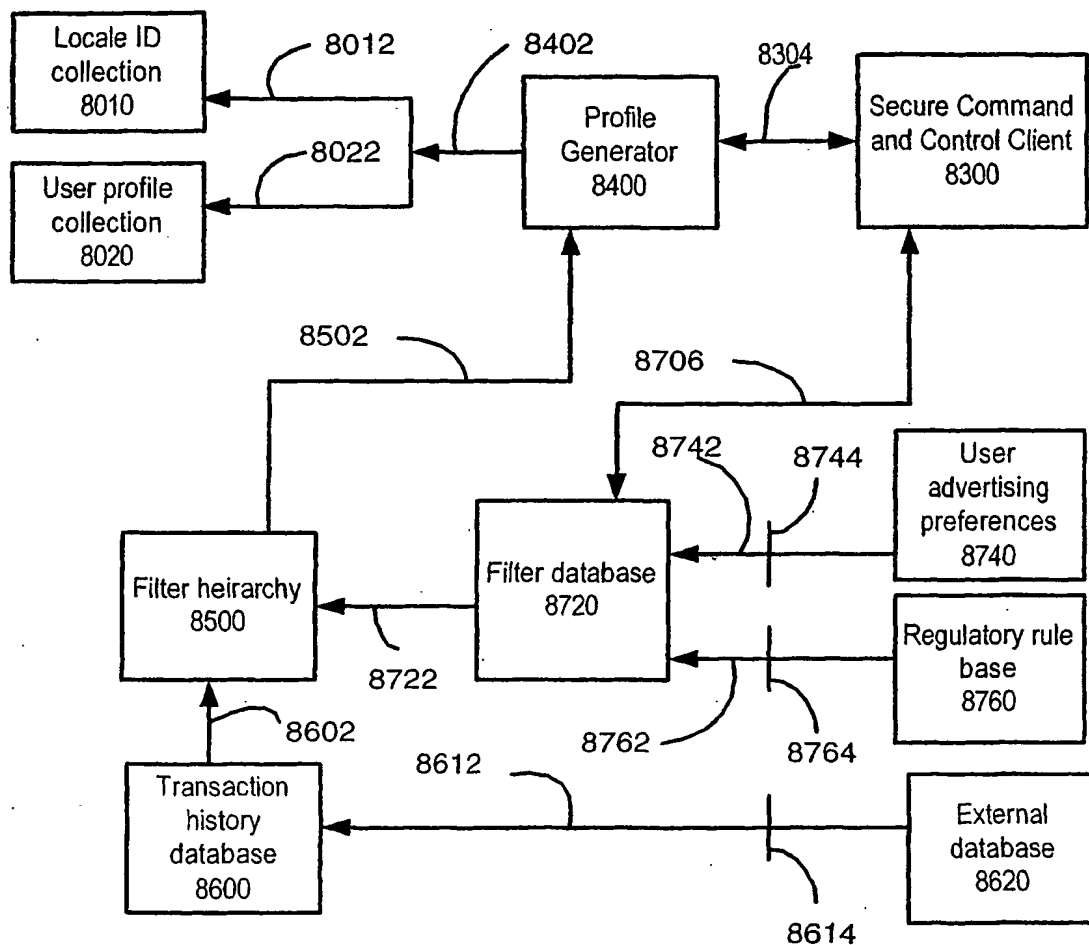


Fig. 36
ver. 2

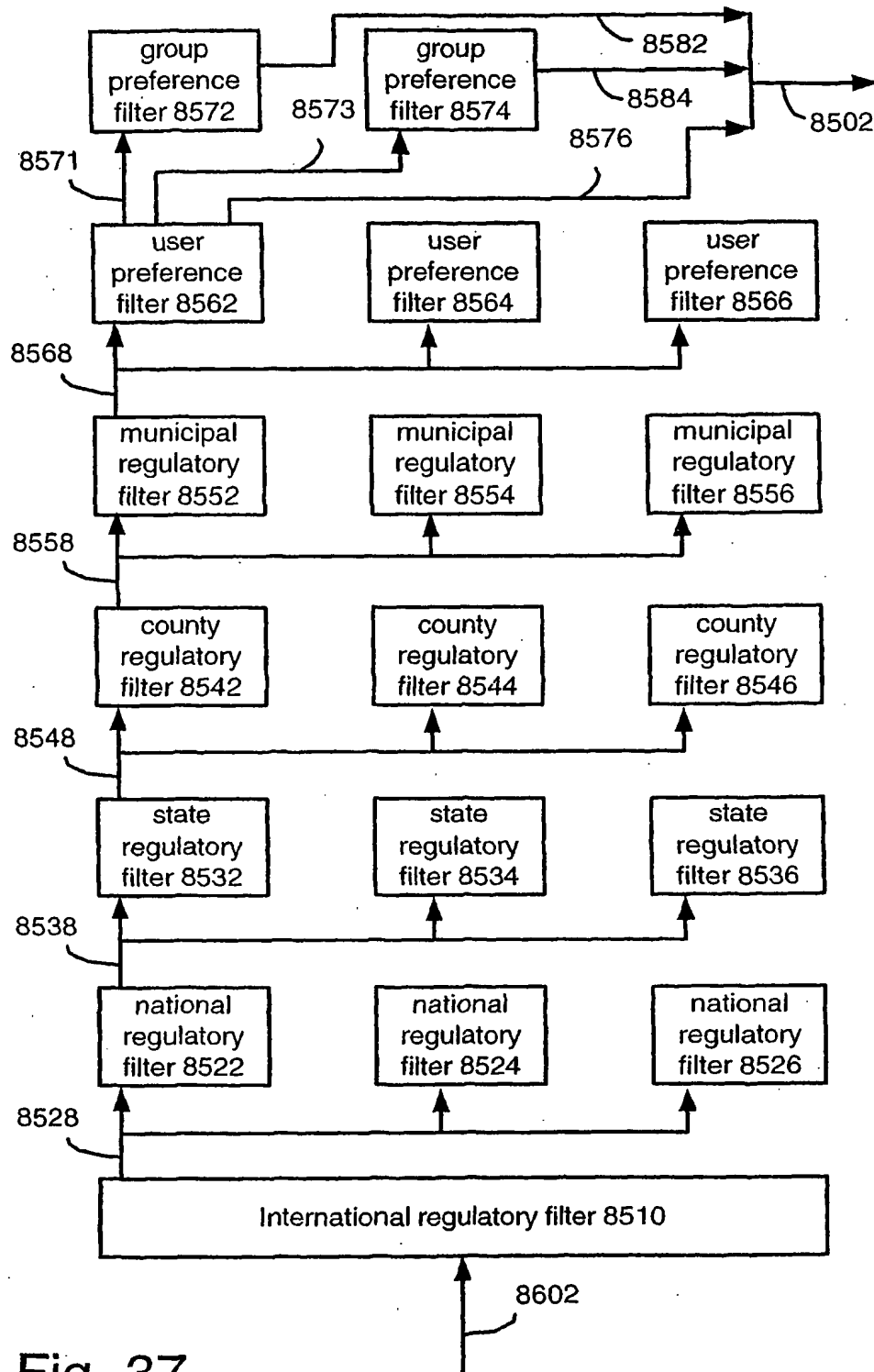


Fig. 37

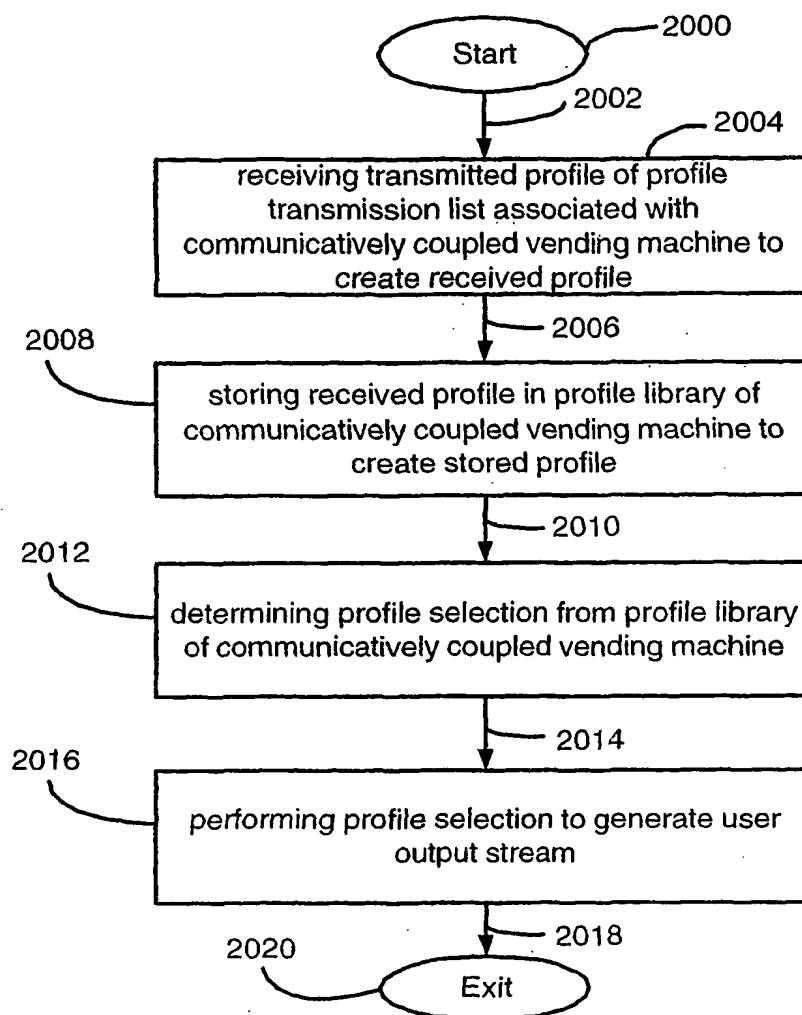
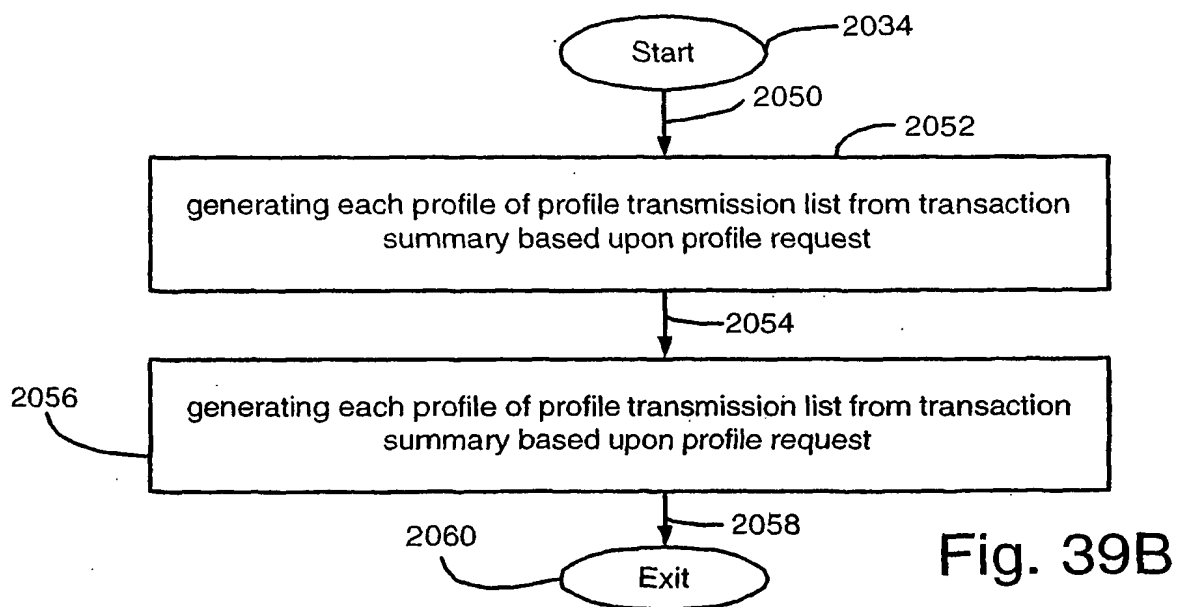
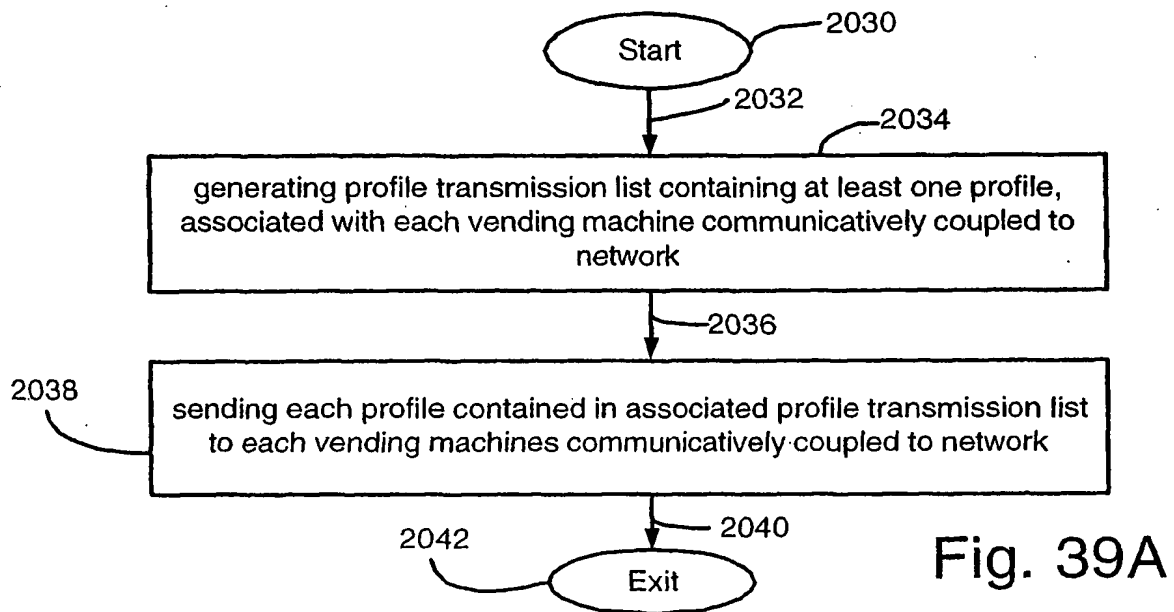


Fig. 38



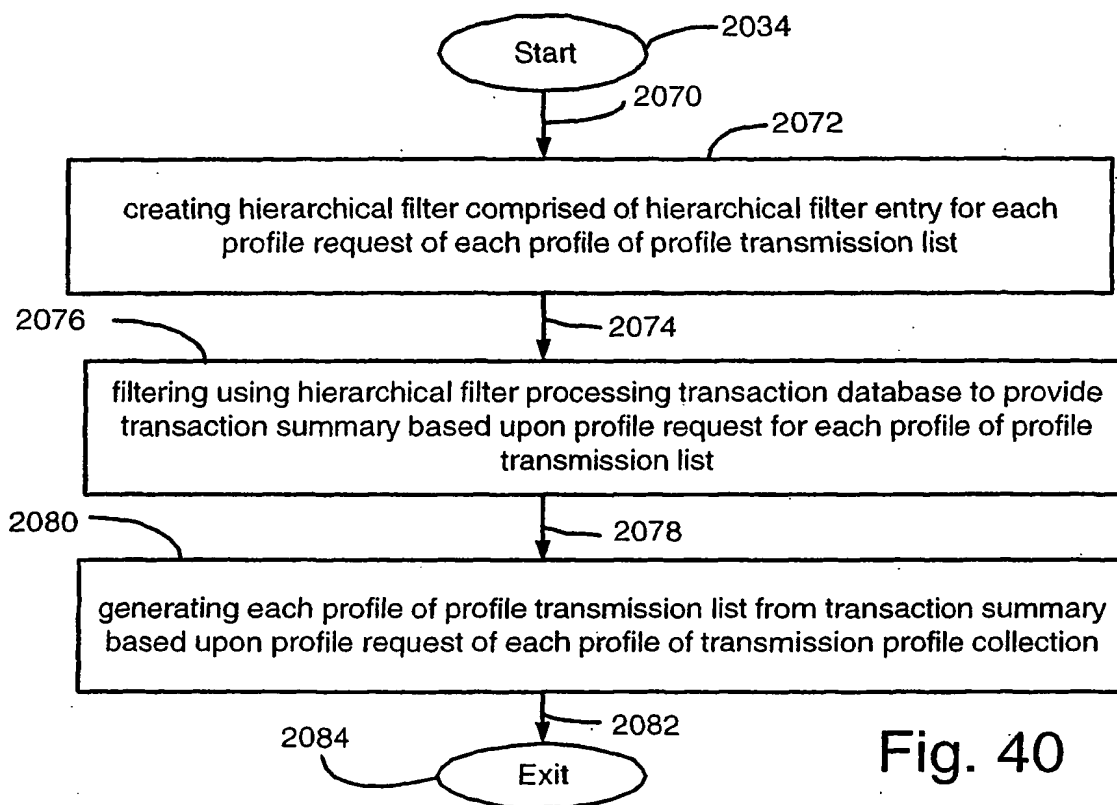


Fig. 40

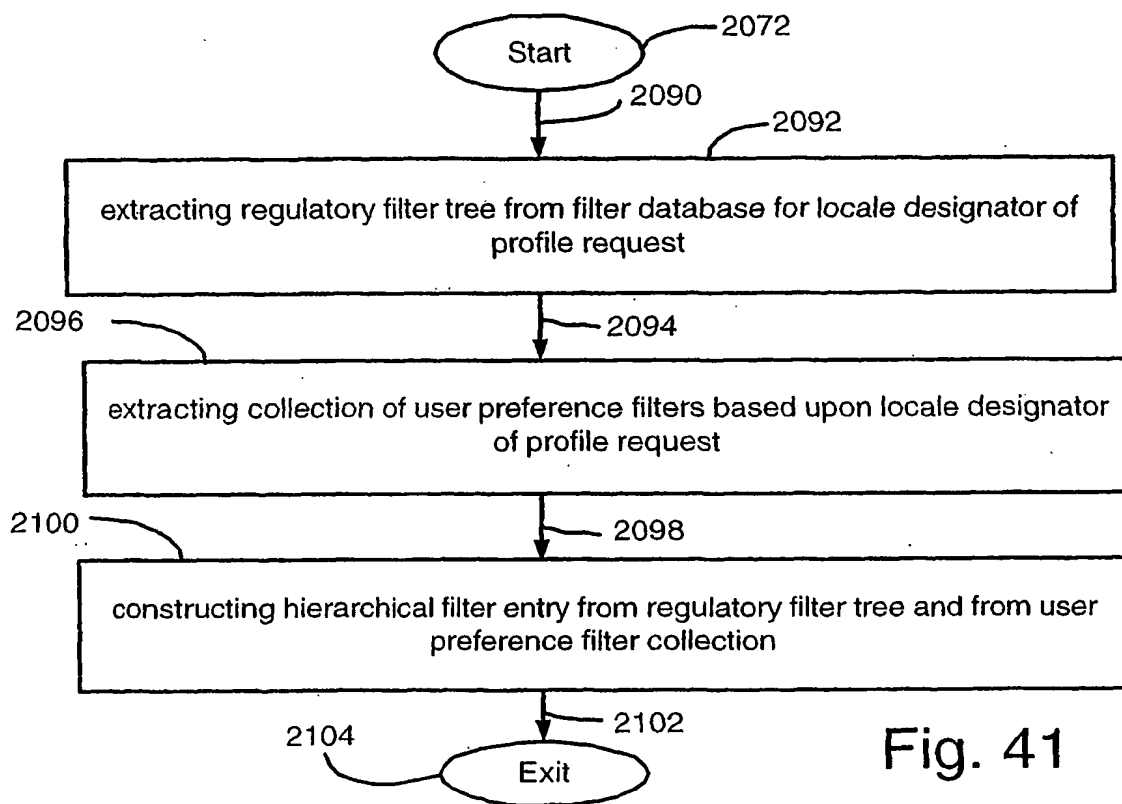
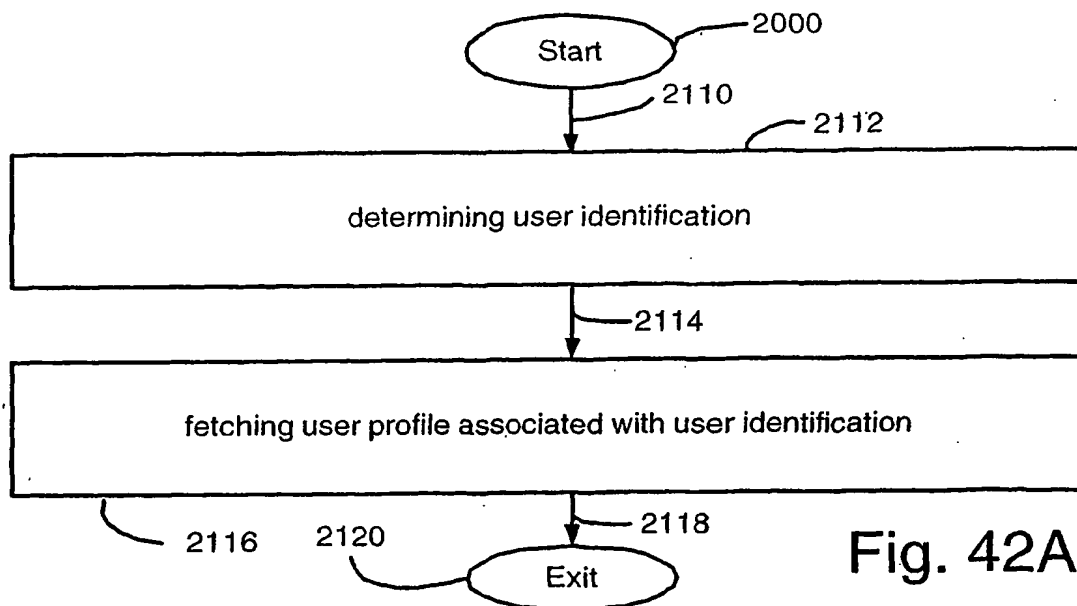
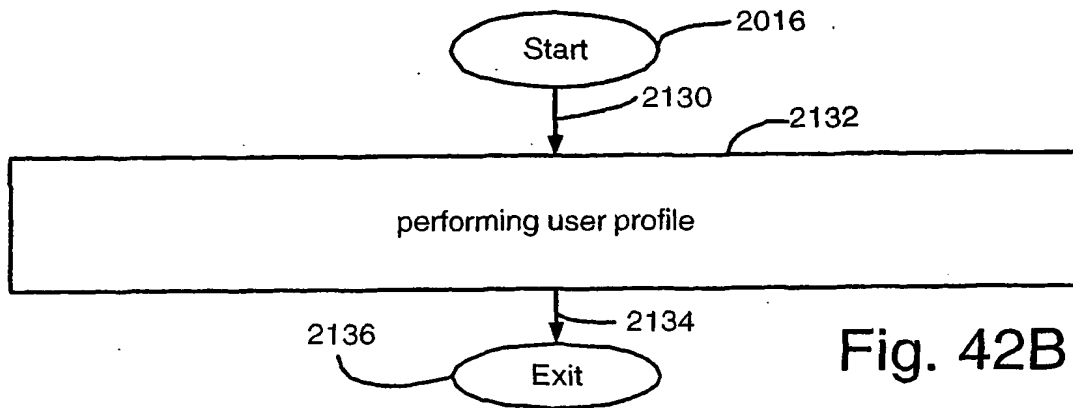


Fig. 41



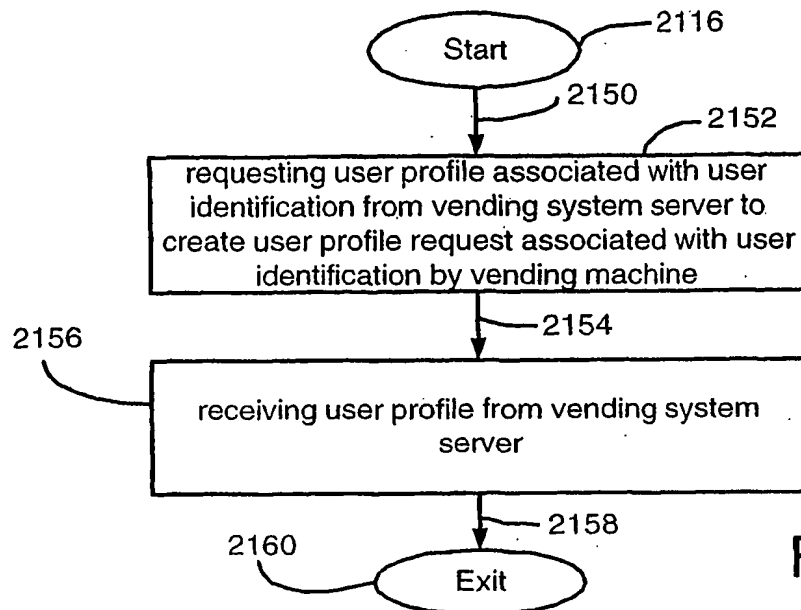


Fig. 43A

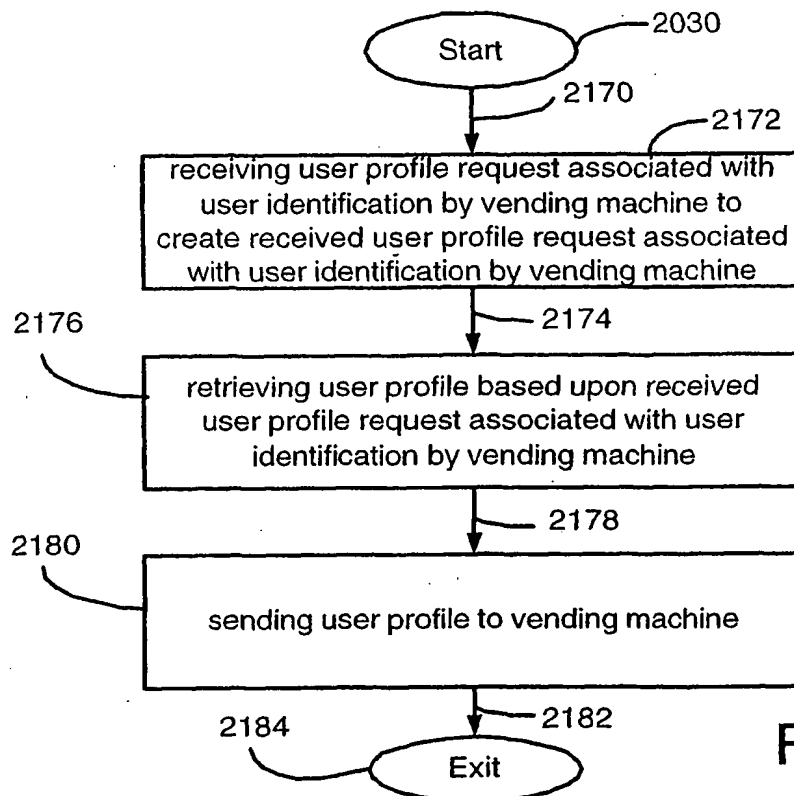
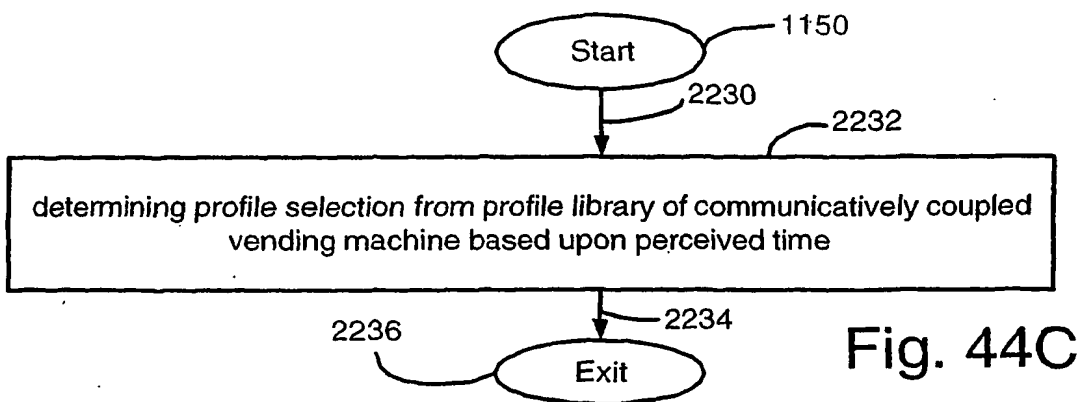
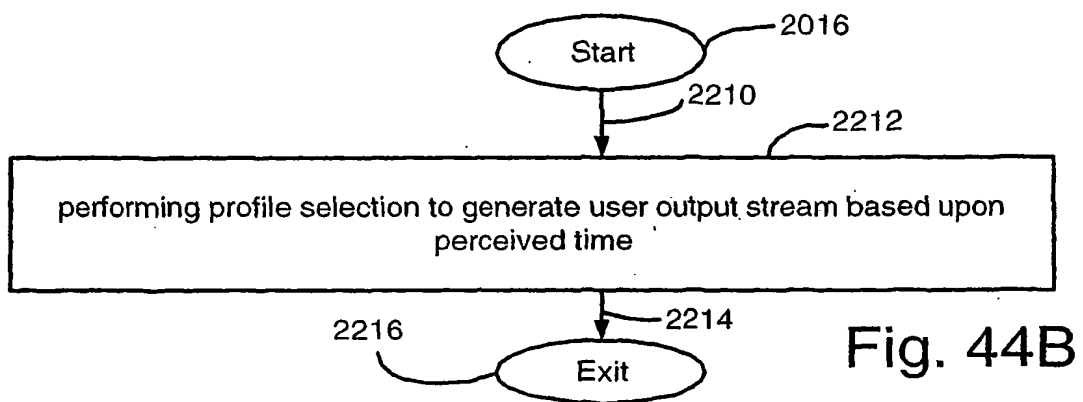
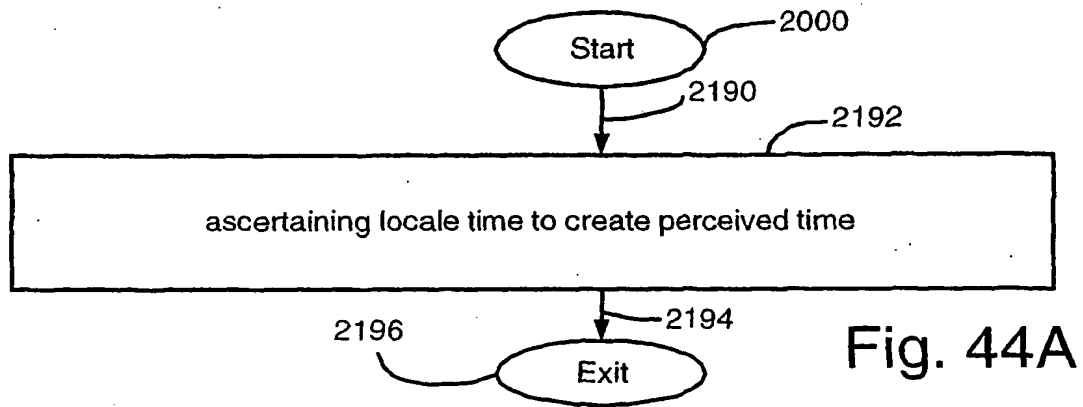
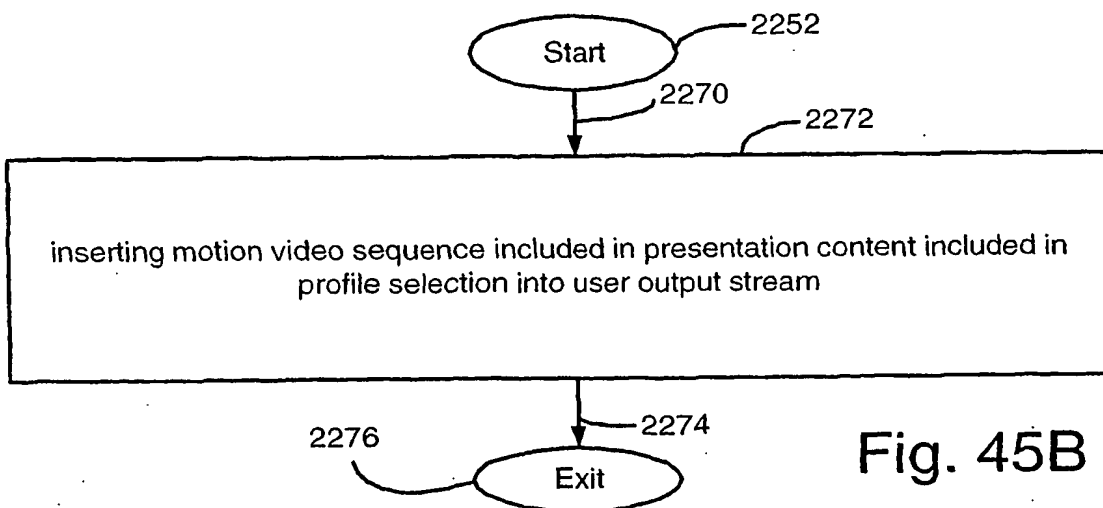
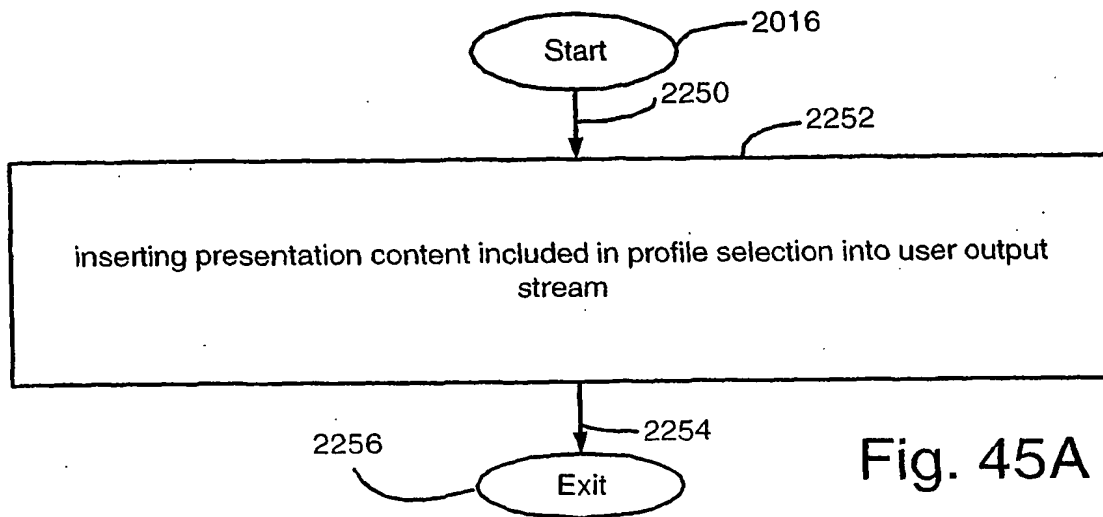


Fig. 43B





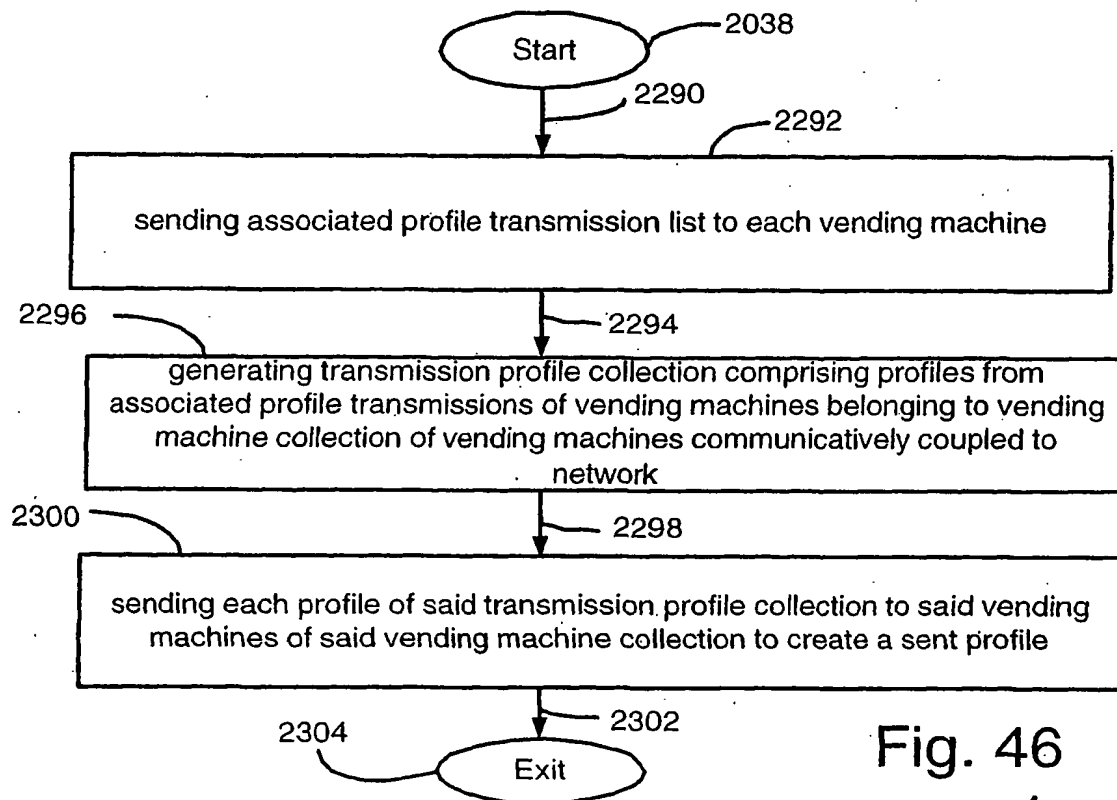
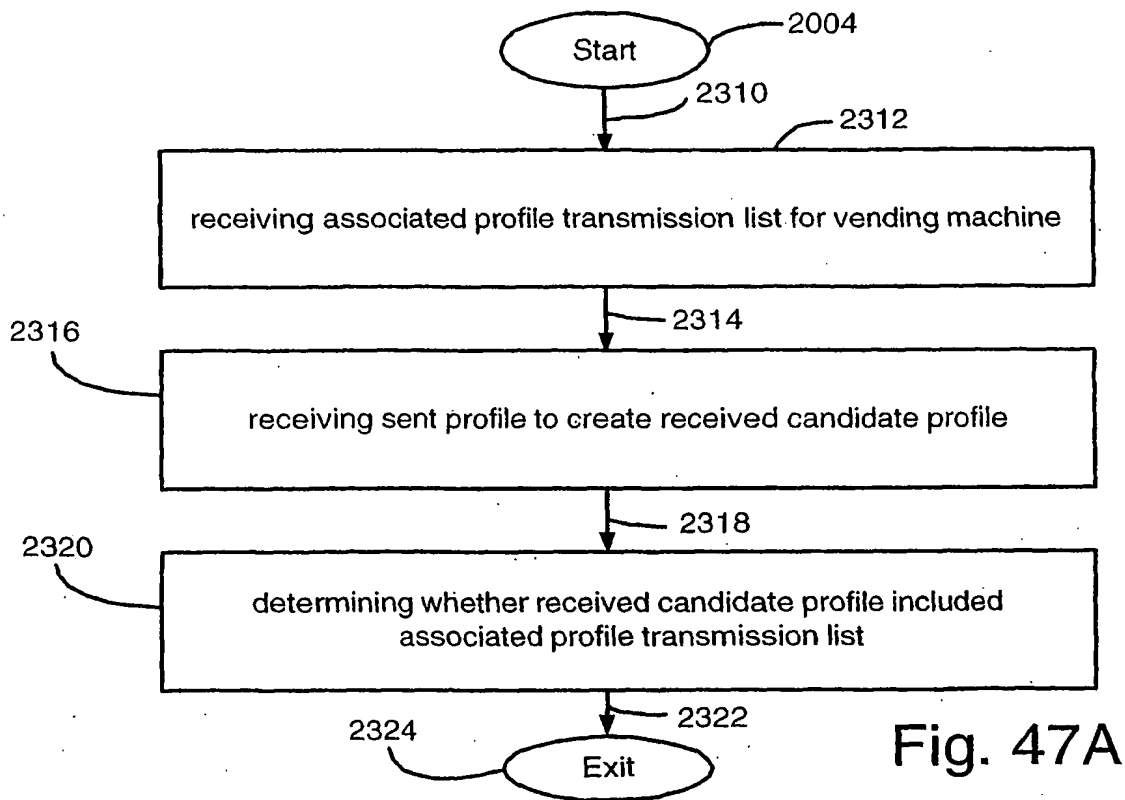
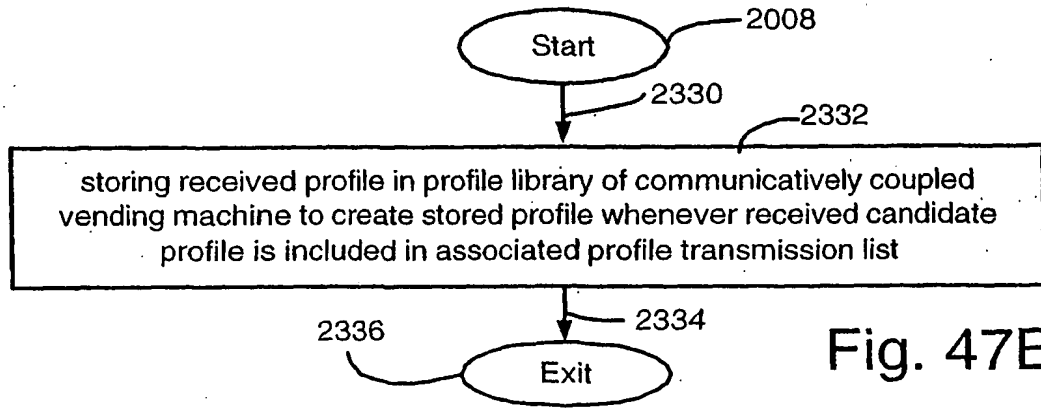
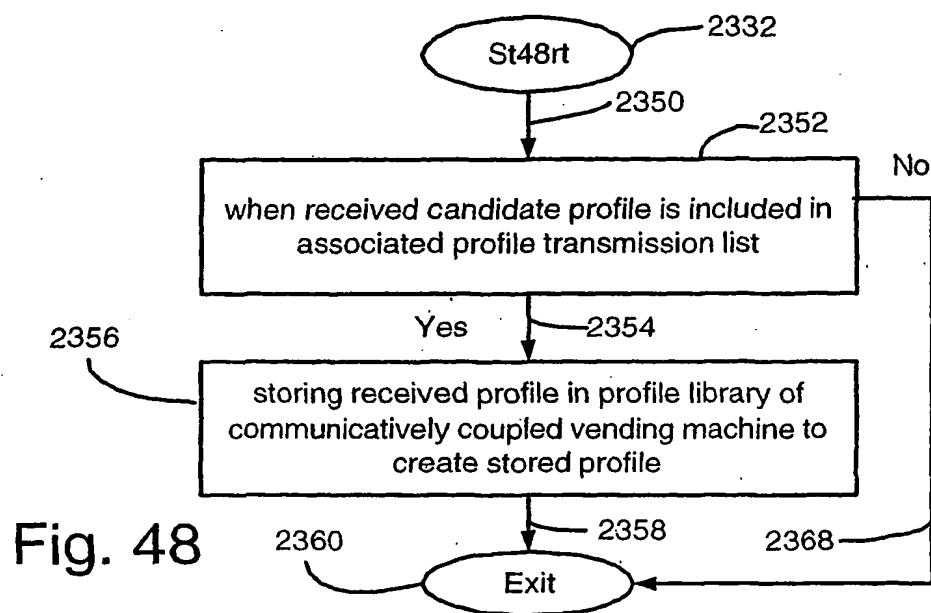
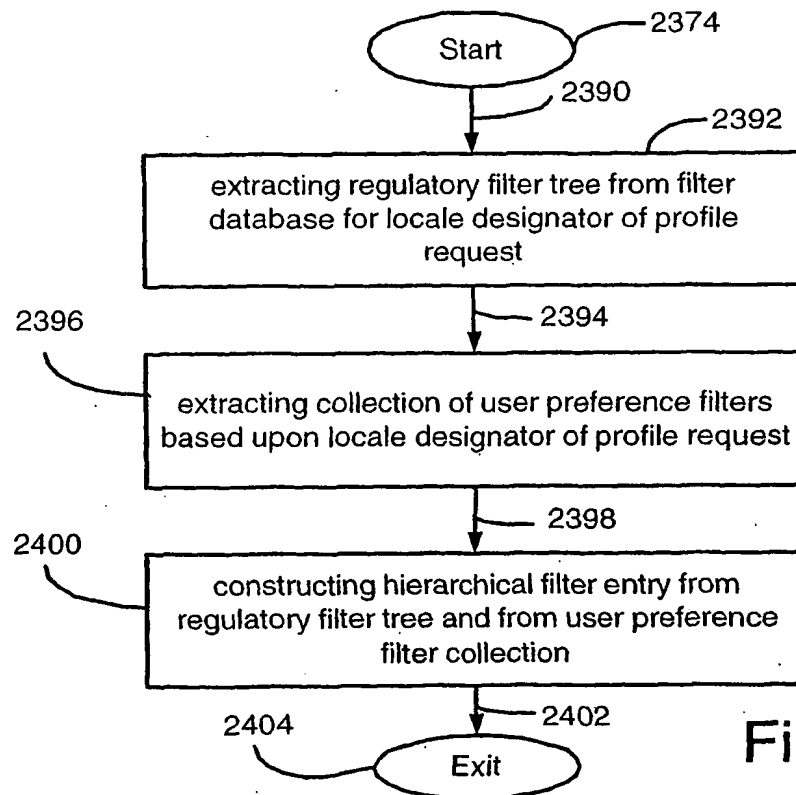
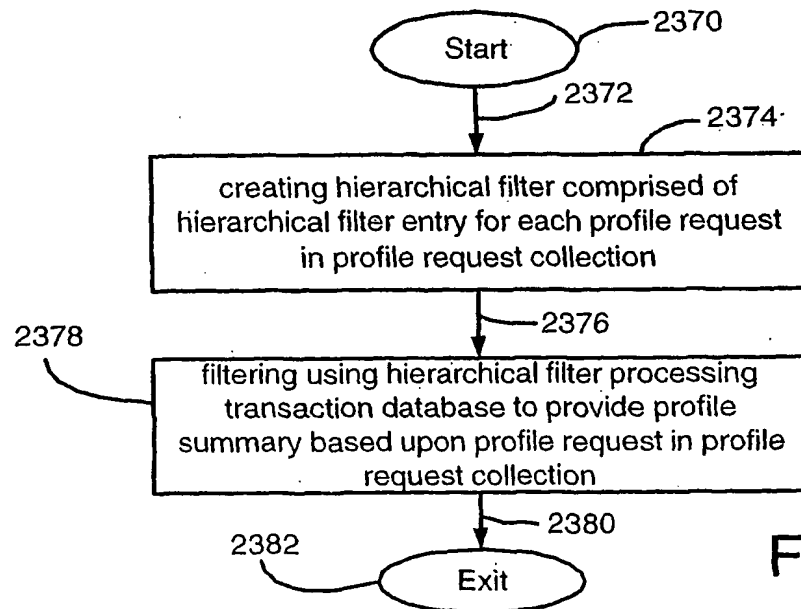


Fig. 46
ver. 4







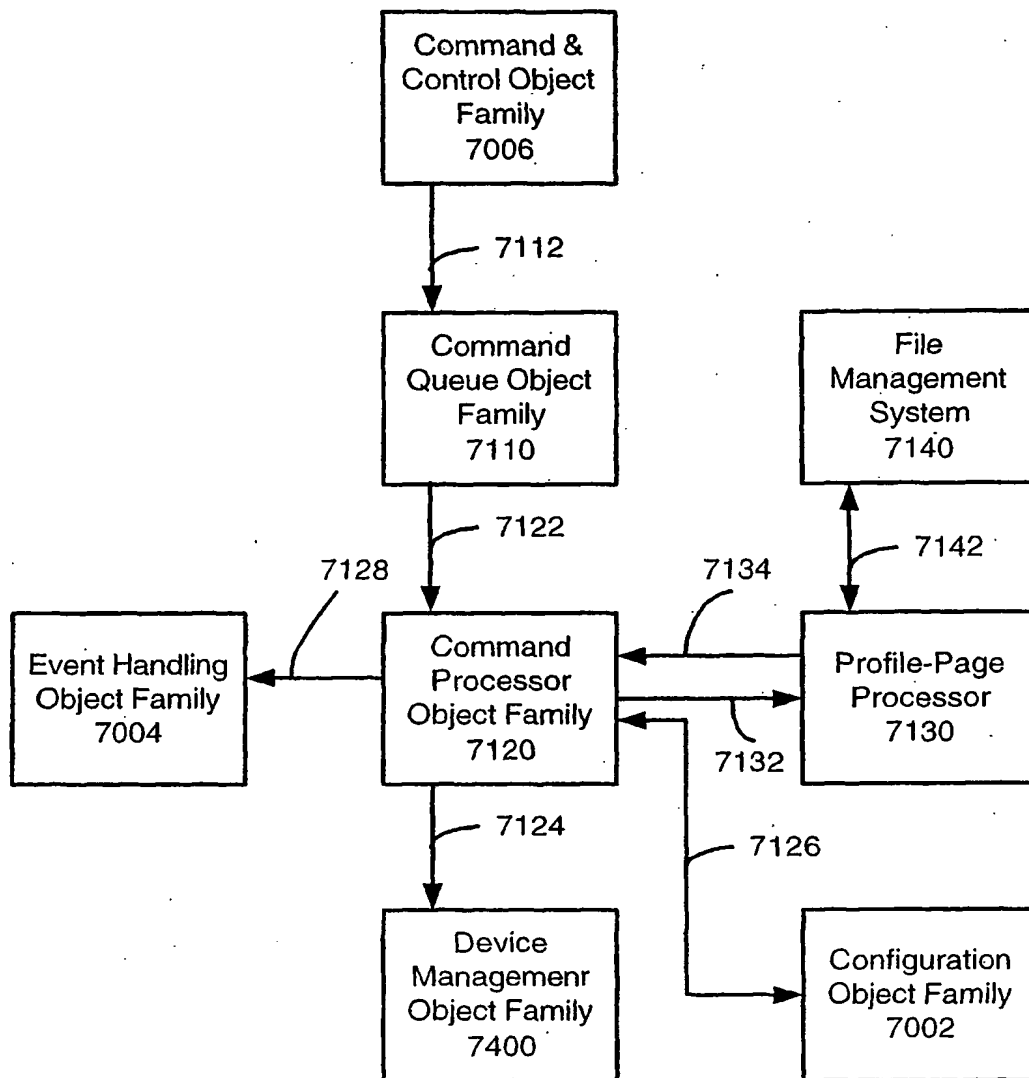


Fig. 50